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HIGH BLOOD PRESSURE STASIS*

ARTHUR R. ELLIOTT, M.D.

CHICAGO

Whatever difference of opinion may exist regarding the factors concerned in the production of high blood pressure, general agreement must concede that when such a condition has come to pass it represents a state of circulatory strain. The net result of persistent high arterial blood pressure, after due allowance is made for physiologic factors of adjustment, is overwork to the dynamic side of the circulation—the heart and the arteries.

For a variable period, compensatory adjustment proves adequate to maintain circulatory equilibrium; but in the course of time, demands on the heart resulting from the stress and strain of a continuously elevated blood pressure outrun cardiac adaptability, and exhaustion of the heart muscle supervenes with circulatory failure. As observed clinically, this failure may manifest itself in several ways. The heart, perhaps without previously displaying grave indications of exhaustion, may suddenly break under the strain and death ensue quickly, with the phenomena of acute dilatation. This is, comparatively speaking, a rare form of circulatory falure in high pressure stasis, and is most often induced by severe and sudden physical or emotional overstrain. That it does not occur more frequently may perhaps be explained by the peculiar mechanism of adjustment at work in the circulation of these cases. The form of heart failure most frequently encountered is a gradual exhaustion of myocardial tonus, with the characteristic syndrome of progressive asystole and falling blood pressure. With this group may be included the occasionally observed instance in which the heart decline advances more rapidly, somewhat after the manner of the failure of the athlete's heart.

In still another group of cases the development of circulatory failure is attended by distinctly different phenomena. In such instances the blood pressure formula remains but little altered, despite the steadily increasing circulatory embarrassment; and until the inevitable antemortem fall in pressure supervenes there exists the anomaly of a failing ventricle with a sustained blood pressure. The name "high blood pressure stasis" has been applied to this condition. It is to a clinical consideration of this interesting development that I invite your attention. I am encouraged to do so by the fact that high blood pressure stasis constitutes a definite and clean-cut circulatory syndrome, and by the conviction that there is a general failure to visualize it and appreciate its significance and bearing on prognosis.

THE HEART IN HIGH BLOOD PRESSURE

There appears to be current a good deal of misconception regarding the heart in high blood pressure. This may be inferred from the frequency with which the terms "myocarditis" and "cardio sclerosis" are employed to characterize the high blood pressure heart state. An attentive study of the clinical course of any case of prolonged high blood pressure must throw grave doubts on the justification for employing either of these terms to describe the valiant and efficient organ that often for many years maintains an unequal fight against heavy mechanical odds. High blood pressure as a rule is of slow growth, and the heart and arteries are afforded time to adjust themselves to the ever-increasing strain. In place of the heart's becoming less efficient, it grows more adequate; and pressures so high that, were they suddenly imposed, they might perhaps disrupt the circulation are successfully borne for years, often practically without faltering. In the end, however, provided apoplexy or uremia or intercurrent illness does not terminate life, the heart sinks under the strain, its reserve exhausted. At necropsy in such a case there may appear no pathologic changes in the heart sufficient to explain its functional defeat. Provided, however, there does appear to be some myocardial fibrosis, is it appropriate that the cardiac diagnosis be announced "myocarditis," and if perchance the coronary arteries show the effects of strain shall we say that it is "cardiosclerosis" that has brought the heart to failure? Surely this would be confusing cause and effect.

I shall not attempt to revive the discussion as to whether the hypertrophied heart may not outrun in its enlargement the capacity of the coronary circulation to nourish it and consequently be foredoomed to degeneration. Provided constriction of the coronary paths does not occur, it is difficult to conceive of a failure of this important circuit to meet as efficiently as do other departments of the arterial system the slow imposition of excess demand. That myocardial fibrosis does take place in the high pressure heart is, of course, true; but it is an open question, as some have maintained, whether this may not be primarily a conservative process endowing the heart with an added element of resistance to strain. The comparative infrequency of acute heart dilatation may again be referred to, and the ability of the greatly hypertrophied heart to preserve its efficiency for long periods is common clinical experience. Whether it is appropriate to stigmatize the high pres-

* From Medical Service No. 2, St. Luke's Hospital.
* Read before the Society of Internal Medicine, March 27, 1921.

sure heart by the use of the term "cardiosclerosis" will depend on what is implied thereby. Clearly it infers the existence of sclerosis of the heart, thus bringing that organ into line with sclerosed vessels. Used in connection with high arterial pressure, the implication is plain that there exists a generalized vascular sclerosis in which both heart and artery share—a coordinated retrogression. Perhaps distinction between the cardio-arterial fibrosis of high pressure states and the vascular changes of atheroma and arteriosclerosis may in practice appear somewhat difficult and involved. The senile sclerosed artery does not lose its vasomotor tonus, and there is nothing to prevent the aged and atheromatous individual from acquiring a high blood pressure, should he develop nephritis or become subject to the toxic factors that induce arterial hypertonus. On the other hand, it is true that persistent high blood pressure induces certain changes in the walls of the arteries; but they are of the nature of a functional hyperplasia, the arterial wall undergoing a thickening or augmentation in the face of strain much the same and after the manner in which the high pressure heart increases in size and, for a time at least, in efficiency. The fact remains, however, that high arterial pressure is not a senile affair or especially involved with the retrogressive vascular changes of old age, and there is need for a good deal more care and discrimination in the use of the terms "arteriosclerosis" and "cardiosclerosis" in connection with high blood pressure. It is well to bear in mind what Allbutt points out—that in hypertension neither heart nor arteries are to blame. They are the sinned against, not the sinners, and we should clear our minds of the misconception that the heart of high blood pressure states is essentially a degenerated or sclerosed organ.

Whatever myocardial damage may eventuate from prolonged strain on the organ, when failure comes to pass it is ordinarily an exhaustion of cardiac reserve brought about by inveterate peripheral factors. Heart failure in high pressure states may perhaps differ little in clinical progression from the asystole of valvular disease or myocarditis, but the provocative factor is different. In this instance it is the existence of high peripheral resistance which produces slow but sure exhaustion of the heart's strength, and the presence of this factor materially influences the behavior of the blood pressure during failure. This is most strikingly apparent in the form of failure under consideration, i. e., high pressure stasis. In this condition the blood pressure remains high at both sides of the pressure formula, systolic and diastolic, until just before death, when the inevitable antemortem drop occurs. In certain instances restriction of pulse pressure appears to be from the diastolic rather than the systolic side, as occurs in ordinary ventricular decline.

In compensatory failure or asystole, it would appear *a priori* that the single constant feature is diminished cardiac power—insufficient systole. This being so, it should necessarily imply a falling systolic pressure. An explanation of the apparent anomaly of a high sustained systolic pressure in heart failure may rest in the fact that, in the presence of a high peripheral block (high diastolic), even a small systolic output from the laboring ventricle may suffice to maintain an elevated systolic pressure—in other words, decline in the mass movement of the blood results and the circulation becomes increasingly static.

HIGH PRESSURE STASIS

High pressure stasis appears to possess certain interesting and, I am inclined to believe, characteristic features. Chief among these are rapid pulse, gallop rhythm and pulsus alternans. The pulse rate in our experience has been invariably rapid, although rhythm is usually regular or at most broken by irregularly recurring premature contractions. Auricular fibrillation rarely if ever occurs. In not a single instance of the fifteen cases forming the basis of this study was fibrillation observed. Some decline in pulse rate follows rest and recumbency, but the pulse rarely returns to normal frequency even after digitalization. It is a fair assumption that this rapid rhythm is an effort on the part of the ventricle to compensate by rapidity of stroke for reduced volume output. The serious significance of persistent increase in pulse rate in high pressure stasis has not been sufficiently emphasized. Other things being equal, a change from the deliberate, slow and measured heart rate ordinarily present in high blood pressure to one more rapid than normal signifies the beginning of myocardial insufficiency. The radial sphygmogram presents fairly constant features. The predicrotic wave of the down stroke is abnormally short, and its curve of tension not as clearly indicated as might be anticipated in view of the heightened pressure and thickened artery. The dicrotic notch occurs at a higher point than normal and is shallow, while the postdicrotic descent of the downstroke is gradual, the rounded shoulder included between the postdicrotic wave and the base line being but faintly indicated or absent altogether. Electrocardiographic study of four of our cases has yielded but little information of particular interest.

Pulsus alternans is a frequent development in these cases and, once present, is usually permanent. Of the fifteen cases studied, eight displayed the alternating

OBSERVATIONS IN FIFTEEN CASES

Case	Sex*	Age	Nephritis	Gallop	Pulsus Alternans	Angina	Blood Wassermann Test	Average Blood Pressure: Systolic	Average Blood Pressure: Diastolic	Blood Nitrogen: Urea	Blood Nitrogen: Total N	Blood Nitrogen: Creatinin	Phthalein	Death	Period Under Observation
1	♀	60	0	+	+	+	0	179	115	24.61	48.8	.....	29.0	Asystole	9 months
2	♀	49	+	+	+	0	0	218	120	69.0	102.0	11.98	2.75	Uremia	7 months
3	♂	39	+	+	0	0	0	201	127	95.6	123.15	20.4	trace	Uremia	4 months
4	♂	49	+	+	0	0	0	237	152	75.6	98.62	4.72	9.3	Uremia	15 days
5	♀	59	+	+	+	0	0	235	149	35.49	60.0	3.1	29.0	Asystole	7 months
6	♂	60	0	+	+	0	0	210	125	32.19	55.0	1.9	52.0	.....	20 months
7	♂	67	0	+	0	0	0	217	136	37.26	48.16	....	....	.....	5 weeks
8	♂	56	0	+	+	+	0	200	120	27.21	39.71	....	....	Asystole	12 months
9	♂	41	0	+	+	0	0	204	134	29.11	44.1	....	41.0	Asystole	4 months
10	♂	52	0	+	0	0	0	230	152	.....	.....	....	60.0	Asystole	14 months
11	♂	60	0	+	0	0	0	151	97	15.2	21.0	....	72.0	.....	20 months
12	♂	55	0	+	+	0	0	183	124	.....	.....	....	45.0	.....	12 months
13	♂	53	0	+	0	0	0	181	96	15.22	34.11	....	5.0	Asystole	8 months
14	♂	53	0	+	0	+	0	160	90	.....	.....	....	60.0	.....	8 months
15	♂	38	0	+	+	0	0	188	121	26.85	38.95	....	24.0	.....	11 months

* In this column, ♂ indicates male; ♀ female.

pulse. The serious significance of this development is indicated by the death of five of these patients after an average period of observation of seven and a half months. In four, deaths occurred from asystole; in one, from uremia.

One of the most interesting and constant physical signs observed in high pressure stasis is the presystolic gallop rhythm. This peculiar type of heart rhythm was present sometime during the course of all cases studied. Sometimes designated "canter rhythm," it is most typical and persistent in the high pressure failure of Bright's disease. The French call it "rhythmus Brightique" for this reason. This gallop of the failing high pressure heart is not to be confused with the diastolic double sound so often heard in mitral stenosis. When the heart takes on this rhythm in high pressure stasis, it denotes grave muscle embarrassment. It is a distress signal from the overburdened heart, possessing much the same significance as the pulsus alternans with which it is frequently associated.

In our experience, when once established it never wholly disappears, and it has proved a sign of grave significance. Under the influence of rest and treatment it may temporarily recede, only to reappear following effort and activity. With the advent of edema, it may disappear, and as death approaches it is no longer to be heard. Our experience would appear to justify the statement that the appearance of gallop rhythm in high blood pressure signalizes the advent of the terminal stage. When the alternating pulse is associated with it, experience would indicate that the end is not far distant. Another symptom of grave significance observed along with gallop rhythm is Cheyne-Stokes respiration. This may be present even when the patient is active and about. Some degree of orthopnea is usually apparent, and exertion tests produce distress of breathing and cyanosis. Medullary dyspnea causes sleep to be broken and restless, and definite paroxysms of nocturnal cardiac asthma may occur.

In high pressure stasis occurring as one of the phenomena of the terminal stage of chronic nephritis, blood nitrogen accumulation, as might be expected, may attain high figures; whereas in non-nephritic cases but little waste nitrogen retention has been observed: indeed, no more than might be readily explained by the kidney decline of passive hyperemia. Four cases of nephritis are included in the series studied, three patients dying of uremia and the fourth of asystole. The average waste nitrogen figures for the three uremia cases was: blood urea, 80 mg.; total nonprotein nitrogen, 107 mg., and creatinin, 12 mg. The fourth nephritic patient dying of heart failure showed more moderate concentration: blood urea, 35.49 mg.; total nonprotein nitrogen, 60 mg., and creatinin, 3.1 mg. The series included eight non-nephritic cases in which blood chemistry studies were made, presenting the following averages: blood urea nitrogen, 26 mg.; total nonprotein nitrogen, 41 mg. The phenolsulphonephthalein kidney function index in this group averaged 45 per cent. for the two hour period. The foregoing figures furnish some support to the contention made by Dr. J. Lyle Williams in a recent report that blood chemistry studies may serve as a means of distinguishing between nephritic and non-nephritic cases of high blood pressure.

The most striking characteristic of the blood pressure formula is marked and persistent elevation of diastolic pressure. Diastolic pressures as high as 180 mm. have been observed in the present series. Diastolic values attain their maximum in nephritic circulatory stasis. The average pressure for the four nephritic cases included in this series was: systolic, 222; diastolic, 137 Average readings for eleven cases of nonrenal type were: systolic, 191; diastolic, 119.

A rather interesting feature of the state of advancing stasis is the general absence of edema. This is the more surprising in view of the fact that for long periods very pronounced splanchnic engorgement exists. The liver may be large and tender, the urine scanty and albuminous from renal cyanosis; basal pulmonary hypostasis is present, and yet the superficial veins do not appear engorged and no tissue soakage exists. It is usually not until the end draws near that fluid accumulates in the subcutaneous tissues and serous cavities. A brief note on the symptoms of this condition is all that time permits. The special subjective complaints which accumulate as the circulatory stasis progresses appear, in the main, to be distinctly abdominal in type. Examination will reveal their true stenocardiac character. These anguinal manifestations may at first be no more than a sense of oppression referred to the epigastrium following the principal meal of the day. This discomfort the patient may strive to relieve by belching and gulping. A common experience is that the effort after breakfast incidental to toilet necessities and hurrying to business induces precordial distress, which presently disappears not to recur until the following morning, or it may show itself again on first lying down at night, when an extra pillow under the head and shoulders is found to afford some relief and so orthopnea is ushered in. True attacks of angina pectoris are not frequent in this condition, but occasionally occur. Nitrites alone afford but moderate relief, morphin being usually required for the purpose. Sensorimotor phenomena appear, such as tenderness over the precordium, sensitiveness to pressure over the pectoral fold or shoulder muscles, and pains and paresthesia in the left arm. The patient may find that these symptoms yield temporarily to cathartics, and takes to purging himself. Their frequent time relations to meals may make him suspect that his food is wrong, and he begins to diet, loses flesh and is none the happier. Cough on exertion, dyspnea and precordial constriction become more and more severe; angina seems never very far off, and nocturnal asthma may occur. Finally, unless effective treatment stays the downward course, edema appears; and thereafter nothing may suffice greatly to delay final circulatory collapse.

The nature of the causes which contribute to bring about this form of circulatory failure renders the prognosis a serious one, increasing in gravity according to the degree with which the vicious circle as between heart and arteries becomes more firmly established. Once edema appears, the end is not far off; and the presence of gallop rhythm, pulsus alternans or Cheyne-Stokes breathing closes the door to any but temporary improvement. A more extended outlook on life may exist in those patients without nephritis. In nephritis, the signs of high pressure stasis go along with serious kidney insufficiency and impending uremia. Measures of treatment directed to the circulation may in some degree prove effectual in cases in which there is no nephritis; but when renal insufficiency exists, little reaction to treatment is apparent, the course proving steadily downward despite all efforts at control.

TREATMENT

There are but three measures of treatment that appear to me to exercise any control in this condition, and they are rest, venesection and digitalis.

As soon as it becomes apparent that the heart is yielding to the overload, complete physical rest should be enforced. In no other manner may cardiac reserve be restored. During complete physical relaxation, pressures decline and cardiac adequacy improves. Resumption of activity should be gradual and under strict supervision. Regulation of the diet on a low protein, low calory basis, together with measures to stimulate elimination, will supplement the good effects of rest. If there exist serious indications of high pressure stasis, considerable benefit may be secured by free venesection. The reduction of pressure, especially diastolic pressure resulting from abstraction of blood, may last for a considerable time and may suffice to avert the threatened stasis.

It is, perhaps, difficult to justify this procedure on physiologic grounds, for unquestionably the vessels fill again quickly and systolic pressure returns soon to former levels; but diastolic pressure returns more slowly, and there can be no doubt of the subjective and symptomatic improvement. Aside from the prompt relief at a crisis, there is something to be said for the employment of venesection as a gradual remedial measure repeatedly and systematically carried out over long periods of time in cases displaying tendency to stasis. My own experience with venesection employed in this manner has been, on the whole, satisfactory. The amount of blood taken during a crisis should, provided no anemia or other contraindication exists, be sufficient to produce a decided effect on diastolic pressure. From 600 to 900 c.c. will ordinarily be required to accomplish this. When bleeding is done as a repeated therapeutic measure, the amount should ordinarily not exceed 500 c.c. Too frequent repetition should be avoided; otherwise harmful depletion of the blood plasma may result. As a rule, the high pressure stasis of renal insufficiency is not appropriate for bleeding, and does not improve under its employment. A complete record of all venesections performed in the series of cases herewith reported is unfortunately not available. Accurate records of the last eight bleedings performed and their effects on blood pressure may be reported. The average amount of blood withdrawn was 520 c.c. A comparison of blood pressure levels at the time venesection was performed, with the pressures taken from twenty-four to thirty-six hours thereafter, shows an average reduction of 20 systolic and 16 diastolic. The relatively greater decline in diastolic pressure is apparent from these figures.

In high pressure stasis of nephritis, digitalis has proved ineffectual. In stasis without renal inadequacy, digitalis may help the heart to rally and should be employed, although rarely will there be secured in the same degree the satisfactory results apparent in other forms of failing heart. If the heart muscle is found to respond to digitalis, its continued employment in optimum dosage appears necessary to maintain myocardial tonus. Such a heart, working ever on the verge of breakdown, cannot be trusted to take care of itself without support.

CONCLUSION

Experience appears to warrant the statement that, while at all times and in all types of high blood pressure, the advent of circulatory stasis introduces a situation of the utmost gravity, when it is associated with renal function failure it proves to be virtually a terminal development, which no treatment proves effectual to control.

30 North Michigan Avenue.

THE CONSTITUENTS OF CHAULMOOGRA OIL EFFECTIVE IN LEPROSY

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HONOLULU

In a previous paper[1] the results of the use of certain derivatives of chaulmoogra oil at the Kalihi Hospital have been reported. The data for the fifteen months preceding Jan. 1, 1920, were summarized and from them it appeared that forty patients had been paroled from the hospital during that time. The period referred to covered a transition in the methods of handling the patients from a time when treatment was voluntary and had to be asked for by the patient to whom it was to be given, to one in which all patients were automatically put on the treatment as soon as admitted. Furthermore, during that time the use of mixtures of chaulmoogra oil with olive oil and various drugs for injection purposes was abandoned and the so-called "standard treatment" adopted.

As a result of these changes in policy and treatment, the period formerly reported on is not as representative of the valuable results which can be secured by the use of chaulmoogra oil derivatives in leprosy as the time which immediately followed. During the period from Jan. 1, 1920, to the middle of March, 1921, some fourteen and one-half months, practically all patients were under regular treatment, and the great majority of them were receiving our standard treatment. The exceptions, which will be noted later in this paper, were patients who were on special experiments. In these special experiments, however, weekly injections were given of various ethyl esters derived from the fatty acids of chaulmoogra oil so that all of the treatments given during this recent period have included as their most essential feature intramuscular injections of one or more of the ethyl esters.

The standard treatment to which reference has been made consists of weekly intramuscular injections of the mixed ethyl esters of chaulmoogra oil carrying 2 per cent. of iodin in chemical combination. This is supplemented by the oral administration of the fatty acids and combined with 2.5 per cent. of iodin. The latter material is placed in capsules and given three times a day according to a graduated dosage, which has been previously described.[1] Only one change has been made in our standard treatment since its adoption. Recently the ethyl esters have been distilled under high vacuum before being combined with the iodin. This gives a purer product, which is somewhat more fluid and is believed to be more readily absorbed.

A summary of the results during this recent period of fourteen and one-half months ending the middle of March, 1921, is given in Table 1.

As has been previously pointed out, there is no way of demonstrating that any person has been absolutely cured of leprosy, but these patients who are paroled are believed to be free from the disease. Up to the present time no one of the patients paroled since

1. McDonald, J. T., and Dean, A. L.: The Treatment of Leprosy, Pub. Health Rep. **35**: 1959 (Aug. 20) 1920.

Oct. 1, 1918, has shown a recurrence. It is probably to be expected that occasional cases will show recurrence and have to return for a second course of treatment. It is believed, however, that the percentage of such returns is going to be low.

The data presented above show that 50 per cent. of the patients who have been in the hospital at all during the period from Jan. 1, 1920, to March 15, 1921, have recovered and been paroled. Most of the eighty-seven in residence, March 15, 1921, are comparatively recent arrivals. It has not been necessary to transfer any patients from the Kalihi Hospital to the settlement on Molokai since June, 1919. It would appear that we have methods in hand for holding the disease under control. Because of the widespread knowledge in the Territory of Hawaii that entrance to Kalihi Hospital does not necessarily mean a life of exile, there is now little tendency to conceal lepers and allow them to reach advanced stages before discovery. On the contrary, more and more of the arrivals are voluntary, and many of the patients are waiving the right to an examination by a board of three physicians, to which they are legally entitled, and enter the hospital quite

TABLE 1.—RESULTS OF TREATMENT

Number of patients, Jan. 1, 1920		72
New patients received, Jan. 1, 1920, to March 15, 1921		116
Total number of cases		188
Deaths	7	
Paroled	94	
Total departures		101
Patients on hand, March 15, 1921		87

willingly, knowing that they have leprosy. This means, of course, that from now on the great majority of the cases will be in the early stages and consequently much easier to control.

Certain questions have arisen from the work at Kalihi, and this paper is devoted in the main to the answers to three of these:

1. What is the relative value of the oral administration of chaulmoogra compounds as practiced in our standard treatment?
2. What are the therapeutic agents in chaulmoogra oil?
3. Is the combined iodin of the standard treatment essential?

TREATMENT BY INJECTIONS ONLY

In the former paper [1] a brief account was given of the beginning of a test on ten patients by intramuscular injections without the oral administration of any chaulmoogra oil or its derivatives. The injections were the same as those given in the standard treatment; but instead of receiving the capsules three times a day containing the fatty acids, the patients received a small dosage of strychnin or other tonic. The ordinary dosage of strychnin was 1/60 grain of the sulphate three times a day. The ten patients used for the test exhibited different types of the disease and varying degrees of severity. They were not selected on any other basis than the fact that they were recent arrivals in the hospital, and during treatment they received no further chaulmoogra derivatives except the injections of the preparation called "H I," which consists of the mixed ethyl esters from chaulmoogra oil carrying 2 per cent. of combined iodin. The experiment began, Aug. 8, 1919, and Table 2 gives the results up to March 15, 1921. Detailed descriptions of the cases are given in the appendix.[2]

It will be noted from the results in the table that of the ten patients in this experiment, one died of intercurrent disease; but at the time of his death, his leprosy

TABLE 2.—RESULTS OF INTRAMUSCULAR INJECTIONS

Case No.	Age	Sex*	Nationality	Character of Disease	Results
1826	23	♂	Hawaiian	Nodular	Lesions nearly gone, ear lobes still swollen
1827	26	♀	Hawaiian	Neural	Paroled, 11/11/19
1841	29	♀	Hawaiian	Nodular	Paroled, 7/6/20
1842	9	♂	Hawaiian	Nodular	Paroled, 3/3/21
1843	25	♀	Chinese-Haw.	Nodular	Paroled, 3/3/21
1845	17	♂	Hawaiian	Nodular	Paroled, 3/3/21
1847	50	♂	Korean	Mixed	Paroled, 7/6/20
1848	28	♀	Hawaiian	Mixed	Paroled, 3/3/21
1849	29	♂	Japanese	Nodular	Died, 4/11/20
1867†	10	♀	Hawaiian	Neural	Paroled, 11/11/19

* In this column, ♂ indicates male and ♀ indicates female.
† This patient began treatment while still in the "suspect ward," before formal admission; consequently the serial number is higher than the others.

had shown a very marked improvement. One of the patients still remains in the hospital. His lesions have cleared up with the exception of the somewhat swollen lobes of the ears. These ear lobe infiltrations are frequently very slow in disappearing. It is expected that this patient will be ready for parole in a few months. The other eight patients have all been sent out from the hospital after varying periods of treatment.

In order to have a basis of comparison, the ten cases immediately following Case 1849 may be considered. Of these ten patients, two were paroled, July 6, 1920; five were paroled, March 3, 1921; two still remain in the hospital, and one died of typhoid fever. It appears that these ten patients have done no better than those which did not receive capsules. It is very doubtful whether the inconvenience and expense attached to the oral administration is justified in view of the results obtained. The individual on standard treatment receives about six times as much material in capsules as he does by injection, and in spite of this fact it would appear that it is the injected material which is almost wholly responsible for arresting the disease. The preparation of the material which goes into the capsules, and the filling of them, entail considerable expense which does not appear to be justified.

TESTS OF HYDNOCARPIC AND CHAULMOOGRIC ACIDS

Our first accurate knowledge of the constituents of chaulmoogra oil was due to the work of Power and his collaborators. They isolated chaulmoogric and hydnocarpic acids, determined their properties, and established their constitutions. These two acids are the only known members of a unique series of fatty acids. Constitutionally they are remarkable for the five carbon ring, and they are differentiated from other fatty acids by their property of rotating the ray of polarized light.

In seeking to account for the therapeutic action which chaulmoogra oil doubtless possesses in leprosy, we have previously advanced the working hypothesis that the peculiar type of fatty acid represented by chaulmoogric and hydnocarpic acids is specific in leprosy, and that it is due to acids of this group that it is possible to control the disease. In order to test the

2. Because of lack of space this is omitted here; it will be included in the authors' reprints.

validity of this hypothesis it became necessary to treat groups of lepers with pure hydnocarpic and chaulmoogric acids or their derivatives. No very great inconvenience was encountered in preparing moderate quantities of chaulmoogric acid, but the preparation of pure hydnocarpic acid was a problem which presented some difficulties. The methods by which it was isolated in quantities adequate for chemical investigation did not prove serviceable when used for the preparation of quantities sufficiently large for our clinical experiments. The methods which were developed by Dr. Richard Wrenshall and one of us have been detailed elsewhere [3] and need not be entered into here. It is sufficient to say that it proved feasible to make considerable quantities of pure crystallized chaulmoogric and hydnocarpic acids. These pure acids were converted into their ethyl esters, and in recent months these have been distilled in order to get them in the highest state of purity. Iodin was not added.

Ten patients were taken in the order in which they entered the hospital, and it was intended that they should represent unselected cases just as they were admitted without any attempt to choose favorable or unfavorable examples. The first five were given weekly intramuscular injections of the ethyl ester of chaulmoogric acid; the second five were given injections of the ethyl ester of hydnocarpic acid. They received no chaulmoogra derivatives by way of the mouth, but did receive some tonic, such as strychnin or arsenic. The general results are given in Table 3, and the detailed descriptions of cases may be found in the appendix.

TABLE 3.—RESULTS OF TREATMENT WITH PURE CHAULMOOGRIC AND HYDNOCARPIC ACIDS

Case No.	Date Admitted	Material Injected	Age	Sex	Nationality	Character of Disease	Results
1933	4/22/20	Ethyl ester, chaulmoogric acid	17	♀	Hawaiian	Nodular	Paroled, 3/3/21
1934	4/16/20	Ethyl ester, chaulmoogric acid	18	♀	Hawaiian	Neural	Improvement, slow
1935	5/ 7/20	Ethyl ester, chaulmoogric acid	12	♂	American-Hawaiian	Mixed	Marked improvement
1936	5/ 7/20	Ethyl ester, chaulmoogric acid	27	♂	Filipino	Nodular	Marked improvement
1937	5/10/20	Ethyl ester, chaulmoogric acid	5	♀	Hawaiian	Neural	Paroled, 3/3/21
1938	5/11/20	Ethyl ester, hydnocarpic acid	13	♂	Hawaiian	Mixed	Improvement
1939	5/11/20	Ethyl ester, hydnocarpic acid	11	♂	Hawaiian	Neural	Paroled, 3/3/21
1940	5/13/20	Ethyl ester, hydnocarpic acid	25	♀	Hawaiian	Neural	Paroled, 3/3/21
1944	5/28/20	Ethyl ester, hydnocarpic acid	51	♂	Portuguese	Nodular	Paroled, 3/3/21
1945	5/30/20	Ethyl ester, hydnocarpic acid	12	♂	Hawaiian	Mixed	Marked improvement

It will be noted that all of the patients have shown improvement, that two of those receiving chaulmoogric acid have been paroled after less than a year of treatment, and that three of the patients on hydnocarpic acid have been paroled. For purposes of comparison, the five cases preceding 1933 and the five following 1945 may be cited. Of these ten patients, four have been paroled and six still remain in the hospital. The results establish the fact that pure chaulmoogric acid and pure hydnocarpic acid given in the form of intramuscular injections of their ethyl esters, without the use of iodin, and without the use of any chaulmoogric derivatives by way of the mouth, are able to arrest the progress of leprosy and cause the evidences of the disease to disappear. On the basis of these results it is justifiable to conclude that acids having the peculiar structure and properties of chaulmoogric and hydnocarpic acids will arrest human leprosy.

MORE HIGHLY UNSATURATED ACID IN CHAULMOOGRA OIL

In the paper on "Fractionation of Chaulmoogra Oil," [3] it was pointed out that from the high boiling portion of the fatty acids, fractions were obtained with iodin numbers much higher than that of chaulmoogric acid: with the chaulmoogric acid fractions there appears to be relatively little optically inactive material, but some materials which raise both the iodin value and the indexes of refraction, indicative of more highly unsaturated acids.

In the preparation of quantities of chaulmoogric acid in accordance with the methods outlined in the paper just mentioned, there was accumulated from the highest boiling fraction a liquid portion with an iodin number of about 125. This is some 35 points higher than the iodin value of chaulmoogric acid; and if it be assumed that this liquid fraction is a mixture of chaulmoogric acid with an acid containing one more unsaturated linking and of about the same molecular weight as chaulmoogric acid, it would mean that this liquid fatty acid material was about 60 per cent. chaulmoogric acid and about 40 per cent. of another acid with an iodin value of about 180. If this hypothetic unsaturated acid with the iodin value of 180 were of the ordinary type of fatty acid, and therefore optically inactive, the rotation of this fraction would drop far below that of chaulmoogric acid. As a matter of fact, it proves to be about the same. The indications are that we are dealing with a compound similar to chaulmoogric acid in that it is optically active and probably has the five carbon ring characteristic of the chaulmoogric series, but is more highly unsaturated than either chaulmoogric or hydnocarpic acids.

The investigation of this material with a view to isolating the hypothetic acid is being prosecuted, and the results obtained so far indicate that an acid of the character suggested above is present. Meanwhile, it was decided to put a group of five patients on this liquid fatty acid material with the iodin number of approximately 125. Consequently these liquid fatty acids were esterified and the ethyl esters used on a group of patients who received no other chaulmoogra derivatives. Originally five patients were taken, serial numbers 1970 to 1974, admitted in the period from Aug. 12 to Sept. 1, 1920. Later on another patient had to be substituted for 1974, who was a blind old man and very irregular in taking injections. One of the other four patients was paroled, March 3, 1921, after a residence in the hospital of a little less than six and one-half months. The other three patients have improved with unusual rapidity, and there are indications that this more highly unsaturated material is particularly efficient. At the present time, however, we are in a position to make only a preliminary report.

RESULTS

The results obtained with those patients who have received no chaulmoogra oil or its derivatives by way of the mouth, but have received injections of the ethyl esters, have shown conclusively that the oral administration is by no means necessary. These results are

3. Dean, A. L., and Wrenshall, Richard: Fractionation of Chaulmoogra Oil, J. Am. Chem. Soc. 42: 2626-2645, 1920.

in harmony with the experience extending over many years when chaulmoogra oil was given only by way of the mouth. Not only was there intolerance of the oil taken this way, but even with those patients who were able to retain the oil, its effects were slow and uncertain, so that although chaulmoogra oil was regarded for many years as a useful drug in the treatment of leprosy, it was by no means considered as a satisfactory remedy or one that could be relied on.

It is not clear why the use of the oil in this way is not followed by more beneficial results. In our recent practice we have administered the oil in the form of its fatty acids so that no digestive hydrolysis was necessary, and these acids should have been promptly absorbed. It is possible that the absorptive mechanism of the intestinal tract rejects these fatty acids, or it is possible that during the process of absorption they undergo molecular rearrangements which destroy for the most part their peculiar properties. It is difficult to see why, if they should once pass into the blood stream from the alimentary canal, they should not exert the same effect that they exert when injected. Whatever the reasons, however, the fact remains that intramuscular injections are effective and that the auxiliary use of oral administration is of doubtful utility.

As far as we are aware, the results communicated in this paper are the first that have been obtained by the use of pure compounds of chaulmoogra oil in leprosy. In some of the earlier work reported from this station, patients were given what was known as fraction "A", which consisted of the ethyl ester of chaulmoogric acid. Unfortunately, however, these patients were at the same time receiving crude chaulmoogra oil in capsules by way of the mouth, and we were unable to draw final conclusions as to the efficacy of the chaulmoogric acid. No such uncertainty surrounds the results communicated now. It is true that five cases on each of the two acids is not a large number, and if the results had been conflicting one would not be justified in drawing conclusions. As a matter of fact, however, the results are not conflicting or uncertain since each one of the patients has shown improvement, although only a part of them have as yet shown a complete disappearance of the clinical evidences of leprosy. Curiously enough, the case in which the slowest improvement was shown was in many respects the mildest of them all, but even in this case there is a distinct improvement in the functioning of the nerves which were affected, and we expect the patient completely to recover.

So far as it is possible to make any comparison on the basis of the results yet obtained, we incline to the view that hydnocarpic acid is more effective than chaulmoogric acid, and we suspect that as one goes down in the chaulmoogric acid series the acids of lower molecular weight will prove more active. We have at present no way of testing this out because no acid of the series of lower molecular weight than hydnocarpic is known to occur in nature, and the artificial shortening of the side chain has not been accomplished. Sir Leonard Rogers has experimented with intravenous injections of mixtures of the sodium salts derived from cod liver oil, and on the basis of his results intimates that therapeutic action in leprosy and perhaps in tuberculosis may be a somewhat general property of unsaturated fatty acids. Rogers' work with cod liver oil derivatives has yet to be confirmed, and the in vitro results obtained by Walker and Sweeney would not tend to support his views. It will be remembered that Walker and Sweeney demonstrated the high bactericidal value of chaulmoogra compounds on acid-fast bacteria. They were not able to show that the cod liver oil fatty acids had a similar power.

Certainly the investigation of the physiologic effects of unsaturated fatty acids deserves further study. Whether or not it shall transpire that fatty acids other than those belonging to the chaulmoogric series are effective in leprosy or other diseases, this much we do consider to be established. The fatty acids of the chaulmoogric series are specific in leprosy.

In their experiments on the bactericidal properties of chaulmoogra derivatives, Walker and Sweeney reported that the salts of chaulmoogric and hydnocarpic acids were less effective than those of the mixed fatty acids from chaulmooga oil. This they ascribe to a greater solubility of the salts of the mixed acids than of the individual ones, on the general principal that mixtures are frequently more soluble than pure compounds. It is true that the pure salts, especially that of chaulmoogric acid, show a tendency to gelatinize, which may be interpreted to mean that they form colloidal solutions in which aggregates of several molecules are the units rather than individual molecules. If it be true that chaulmoogra oil contains one or more liquid fatty acids having the same general structure as chaulmoogric acid, but more highly unsaturated, it is conceivable that these more highly unsaturated acids are in part at least responsible for the more marked bactericidal action which Walker and Sweeney noted for the mixed acids. We have too little data to draw any final conclusions respecting the relative efficiency of the preparation containing the more unsaturated acid; but such results as have been obtained and which have been communicated above lead us to suspect that this more unsaturated material is unusually rapid and effective in its action.

The patients on the ethyl esters of chaulmoogric acid, hydnocarpic acid and the more highly unsaturated mixture have received no iodin. They do not appear to have suffered from its absence. Although no strictly comparable cases are available on which to base final conclusions, we may infer that the rôle of the iodin is at most a minor one.

It is clear that there are still before us numerous problems connected with the chemistry of chaulmoogra oil and the therapy of its compounds in leprosy. One of these has to do with the more unsaturated compounds of chaulmoogra oil, and work on this is being actively prosecuted by Dr. Wrenshall and may be expected to yield conclusive results in the not distant future. The chemical problems connected with the production of acids with shorter side chains than hydnocarpic acid, or the artificial production of acids of this type, are attractive and should be attacked. In the clinical use of the remedies, one of the most serious handicaps is the tendency to eruptions which certain patients show. We have already pointed out that something like 10 per cent. of the patients are unable to take injections continuously, but tend to break out with swellings which may perhaps be a form of toxemia, as suggested by various authors, or may be an anaphylactic reaction, as originally suggested by Sinclair.[4] Although these are not especially serious, they do interrupt the progress of treatment and make it much slower for these patients. The control of this reaction is therefore highly desirable and offers a field for further investigation. We have not experimented with injections other than the intramuscular injections with

4. Sinclair, A. N.: Tr. M. Soc. Hawaii, 1919.

ethyl esters. We have proceeded on the general principle that it is good practice to let well enough alone. It may be, however, that in the form of emulsions these ethyl esters will be more readily absorbed and more efficient in action.

It is not claimed that our present practice, successful as it appears to be, is the last word in the administration of chaulmoogra oil derivatives to lepers. The whole problem of the physiologic mechanism involved in these treatments has yet to be attacked. The rather obvious inference from the work of Walker and Sweeney is that the chaulmoogra compounds attack and destroy the bacilli of leprosy. It is permissible to hope that further study of this whole problem may result not only in fuller knowledge, but also in more efficient treatment.

ROENTGEN RAY AND TUBERCULOSIS IN INFANTS AND CHILDREN

A STUDY OF FORTY-FOUR CASES *

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The trend of present day medicine is primarily toward prevention of disease and, failing in that, to obtain early diagnosis in order that curative measures may be applied in season. In the work along these lines, perhaps no disease has been to the forefront more than tuberculosis, the prevention and early diagnosis of which in childhood assume a most important rôle. Baldwin [1] has proposed a rather generally accepted theory that "the natural infection of human beings takes place largely in childhood." The enthusiastic public health worker has propounded the slogan, "If we can control the child, the tuberculosis problem will take care of itself."

As an application of these ideas, witness the open-air schools, nutrition clinics, social service centers and work in the homes of the poor. The results of these efforts have been real and valuable. But not yet has the ubiquitous tubercle bacillus been stopped in its vicious circle of infection-disease—disease-infection. Not yet may the general medical man fail to be conversant both with the protean manifestations of tuberculous disease in children and also with all the tried and approved methods of accurate diagnosis.

A theoretical controversy has long existed between the so-called "laboratory man" and the clinician concerning the most accurate methods of diagnosing tuberculous infection and disease. The theoretical controversy has often become real; and the trained roentgenologist has been classed by the clinician as a "laboratory man," and the roentgen ray but an uncertain adjunct to diagnosis in intrathoracic conditions.

The controversy is being settled as regards adult and childhood tuberculosis. The use of the roentgen ray in the latter has increased until it is now a routine measure and is endorsed by clinicians.

During the course of routine roentgen-ray examinations of infants and children at the Boston Consumptives' Hospital, we became impressed by the relatively large number of cases referred with a clinical diagnosis of chronic pulmonary tuberculosis. In order to check this impression by figures, and also, to compare and correlate the more common clinical findings with roentgen diagnosis, we have made a study of forty-four consecutive cases.

SOURCE OF MATERIAL

The children's ward of the Boston Consumptives' Hospital is maintained in a building entirely separate from the main hospital group, where are treated far advanced cases of adult phthisis. The children's ward is both a hospital and a preventorium. The average number of fifty cases includes bed and ambulatory patients from infants of 5 months up to boys and girls of 16 years. Many of these are sent from poor homes and tuberculous parents merely as undernourished children, others with frank tuberculosis. By clinical and laboratory studies these children are classed as nontuberculous or as having bone, tracheobronchial lymph node or pulmonary tuberculosis. Because of lack of facilities, but few bone cases are received at the hospital. Therefore, we shall deal only with intrathoracic conditions.

AGE GROUPS

Writers in general divide tuberculosis of infancy and childhood into age groups. One group includes individuals below 2 years, a second, those between 2 years and 6 or 10 years, while a third contains all children above 6 or 10 years, when adult forms are said to appear.

In the present series of forty-four cases, we arbitrarily made the same groupings for ease in comparative and statistical study of the methods of diagnosis and types of tuberculosis found.

By thus dividing, we found three patients under 2 years of age, eleven between 2 and 6 years inclusive, twenty between the years of 7 and 10, and ten over 10 years of age.

Final clinical diagnosis in any given case was the result of a composite estimate of general constitutional findings, such as weight, fever or cough, and of various standard tests, including the von Pirquet and intradermal tuberculin reactions, D'Espine's sign for tuberculosis of the tracheobronchial lymph nodes, sputum examinations and physical signs, including percussion, breath sound changes and râles.

To this was added the roentgen ray, each case being carefully studied from plates. Fluoroscopy was not much used, as we have found it to be of less value than the permanent record of the roentgenogram. Roentgen-ray diagnosis considered all hilum thickenings and peribronchial and parenchymatous changes in the lung fields, viewed from the standpoint of the patient's age and past history. Changes due to acute infections were ruled out by a history sent with the patient to the roentgen-ray room, although in reading plates diagnosis was first made from the roentgen-ray evidence alone and later correlated with the history for greater accuracy.

Leaving out of the present study the constitutional symptoms, we will discuss each of the clinical tests mentioned, first by itself and then in conjunction with the roentgen-ray findings.

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*Read before the Norfolk District Medical Society, Boston, March 29, 1921, and New England Roentgen Ray Society, Boston, April 2, 1921.

1. Baldwin, E. R.: Immunity in Tuberculosis, with Special Reference to Racial and Clinical Manifestations. Reprint from Harvey Lectures, Series X, 1914-1915.

VON PIRQUET AND INTRADERMAL SKIN TESTS

Accepting the von Pirquet and intradermal reactions as tests for infection, but not for active tuberculous disease, Fishberg [2] summarizes the findings of many observers, all of whom found that the reaction increases from negative in infancy up to adult life, when from 75 to 94 per cent. give positive reactions. "Clinically," says Fishberg (p. 321), "the test is important in showing the wide dissemination of tuberculous infection among civilized humanity. . . . In children it shows whether they have been infected with tuberculosis, and in infants it even points to active disease, but in adults it is of no clinical value at all."

In the present series a total of thirty-five reacted to the von Pirquet and thirty-six to the intradermal test; one out of three in the age group under 2 years; nine in eleven from 2 to 6 years of age, and fifteen from a possible sixteen from 6 to 10 years; while in those children over 10 years of age, all reacted positively. These observations are confirmatory of those noted by others.

It is of interest to compare the roentgen-ray findings with these clinical tests of tuberculous infection. If these skin tests indicate the presence somewhere within the body of the host of an infectious process, in how many cases will this infection be found to show itself in the lungs, as demonstrated in roentgenograms?

We found that a total of twenty-six having a positive von Pirquet and intracutaneous reaction also were shown to have structural changes in the lung hila or lung fields consistent with a pathologic condition due to implantation of tuberculous infection.

In ten cases of a positive skin test the roentgen ray detected no evidence of change within the lung fields, thus giving no visible clue to the site of the infection.

Seven patients did not give a positive skin test, and yet the roentgen ray noted characteristic changes in the intrathoracic picture. Ruling out changes due to acute respiratory disorders, variations in technic of applying the test, etc., no explanation is offered for this observation. It is worthy of note, however, that one negative skin test, like one negative blood Wassermann test, is to be viewed like the latter—itself negative as a diagnostic guide.

Much has been said of late as to the more frequent use of the von Pirquet tuberculin test, some advocating that children be tested every year until a positive reaction is obtained. In this way the positive reaction would indicate, within a time radius of a few months, the date of implantation of the active bacilli and possible reaction of the child to them. Then, if any untoward, concomitant, constitutional symptoms were to arise, the medical observer would be doubly warned that clinical tuberculosis was perhaps just beneath the surface.

If it be true that the von Pirquet test points out implantation of infection and growing sensitization of the host, it is also true the roentgen ray can in many cases show the site of infection, if it be intrathoracic, and give the clinician an estimate of extent and type, whether hilum, peribronchial or parenchymatous, thus aiding prognosis in a given case. The latter point is worth consideration by the general medical man and the hygienist, raising, as it does, the question of wisdom of more frequent roentgen-ray examinations of children.

2. Fishberg, Maurice: Pulmonary Tuberculosis, Philadelphia, Lea & Febiger, 1916.

D'ESPINE'S SIGN AND TRACHEOBRONCHIAL TUBERCULOSIS

In diagnosis of tuberculosis of the tracheobronchial lymph nodes, "the one clinical sign upon which the most emphasis has been laid is that described by D'Espine. This sign consists of a prolongation of the whispered voice over the upper dorsal vertebrae, occasionally it being heard as low as the eighth dorsal. Some believe D'Espine's sign is pathognomonic of enlarged tracheobronchial lymph nodes; others, while attaching great importance to its presence, state that it is heard at times in the absence of any such enlargement. Morse, in a study of 666 children of wealthy and well-to-do classes, was able to elicit the sign in but 6 per cent." [3]

In our series, D'Espine's sign has been found of relatively little value. It appears to be evanescent, heard one day and absent a few days later, with no satisfactory explanation.

Four in our 2 to 6 year group, five between 7 and 10 years of age, and two over 10 years of age, or a total of eleven patients, were found to have a D'Espine sign, six of these being called nontuberculous from a clinical standpoint.

Turning to the roentgen ray for correlation in making a diagnosis of tracheobronchial lymph node tuberculosis, we find a divergence of opinion and findings in our series.

MacGowen [4] points out that in children the roentgen ray "is a most valuable and reliable evidence, and a negative result is more important than a positive." Reporting on a series of 210 children roentgenographed for intrathoracic glandular tuberculosis, he found sixty-seven positive on clinical examination and 112 positive by the roentgen ray, eighty-one doubtful clinically, and forty-one doubtful by the roentgen ray.

Our present series shows only four diagnoses of clinical tracheobronchial lymph node tuberculosis, two each in the 2 to 6 and 7 to 10 year age groups, the remaining seven positive D'Espine signs not being considered sufficient evidence to clinch diagnosis. Three of these clinical diagnoses were checked by the roentgen ray, the fourth showing nothing by the roentgen ray.

In the absence of a clinical D'Espine sign or positive diagnosis by the clinician, the roentgen ray diagnosed seven cases of tracheobronchial lymph node tuberculosis, four of these also showing peripheral lung field involvement. Hilum thickenings appeared in twenty-eight cases, fifteen being in conjunction with further lung involvement.

In the 2 to 6 years age group, six out of eleven showed hilum thickening, sixteen out of twenty in the 7 to 10 years age group, while six in ten in the group over 10 years had thickened hila.

Fishberg says (p. 267) that "early tuberculous lesions, slightly enlarged bronchial glands, unless caseated or calcified, as well as mucous secretions, usually permit the rays to pass through without casting any shadows on the plate."

If this be accepted, then we can feel that our large percentage would be even less than the total number of tracheobronchial infections present in our patients.

Therefore, from a roentgen-ray standpoint, in our series, the D'Espine sign showed itself neutral or nega-

3. Norris, G. W., and Landis, H. R. M.: Diseases of the Chest, Philadelphia, W. B. Saunders Company, 1917.

4. MacGowen, J. C.: Early Diagnosis of Tuberculosis in Children, Brit. J. Tuberc. **12**, No. 4 (Oct.) 1918.

tive, so far as it clinically demonstrated enlarged tracheobronchial lymph nodes in children. George, Boutwell and Floyd,[5] reporting a series of children studied for bronchial adenopathy, also concluded that D'Espine's sign is of less value than most of the other signs.

SPUTUM

In clinching a diagnosis of pulmonary tuberculosis in children, emphasis has been laid both on the difficulty of obtaining a positive sputum and in most cases of obtaining any sputum at all. The former was for us the more difficult task, for in only three cases in the whole series could the tubercle bacillus be demonstrated. In some cases there are recorded more than fifty careful examinations, extending over many months and years in a few cases.

Heise and Sampson,[6] on comparing sputum examinations and roentgen-ray types, found that only 7 per cent. of their peribronchial tuberculosis patients had positive sputum, as opposed to 65 per cent. of parenchymatous types. This observation has no bearing on our cases of childhood tuberculosis. Seventeen of the cases were of the peribronchial type alone, and sixteen showed parenchymatous involvement by the roentgen ray. The three positive sputum cases were peribronchial.

CLINICAL TYPES OF CHILDHOOD TUBERCULOSIS

In reading various writers on childhood tuberculosis, we found that not only were age groups outlined carefully, but also only certain types of the clinical disease were believed to obtain within each age limit.

During the first two years, Holt[7] says that tuberculosis most frequently involves the lungs and bronchial nodes. After the second year, tuberculosis of the bones, cervical and mesenteric lymph nodes, peritoneum and intestine becomes more frequent. MacGowen[4] states that bronchial adenopathy holds first place in this early childhood period.

Pulmonary tuberculosis in children is said to take usually the miliary form or tuberculous bronchopneumonia, both very active and acute processes. Holt believes that under the seventh or eighth year, "nothing corresponding to the chronic phthisis of adults is found (p. 1027).

Norris and Landis[3] say: "It is not altogether easy to fix definitely the age period at which the signs peculiar to children cease. From my own experience, ten years would be more nearly correct."

Fishberg[2] found, in his experience of many years, dealing with the tuberculous and their families, not a dozen cases of pulmonary tuberculosis in children from 4 to 12 years of age.

According to Griffith,[8] "chronic pulmonary tuberculosis or 'phthisis' is rarely found in infancy and early childhood. Sawyer, in a physical examination of 8,000 children under 15 years, found only fifteen in whom a diagnosis of phthisis could be made with reasonable certainty."

In working with our cases at the Boston Consumptives' Hospital we had formed a rather definite idea that we did have more of the adult phthisical form than textbooks would lead us to believe. Admitting that our cases were, so to speak, a concentration of pulmonary types, nevertheless, we felt the need of tabulating by clinical and roentgen-ray findings to check our general impression.

Tracheobronchial tuberculosis has already been discussed under the D'Espine sign. Only one patient with clinical tuberculous bronchopneumonia was in the hospital at the time the study was made.

In the 2 to 6 years of age group we found two cases called chronic pulmonary tuberculosis from clinical signs. These were dulness, bronchial breathing and râles, findings like those of adult phthisis. Both of these cases were confirmed by roentgen-ray examination.

In the 7 to 10 years group we found seven cases of clinical pulmonary tuberculosis, all showing the positive signs mentioned. All but one of these was checked by the roentgen ray.

Half of the ten patients over 10 years of age had chronic pulmonary tuberculosis of the adult type, the roentgen diagnosis concurring in all of these save one, in whom changes noted were thought to be not characteristic of tuberculosis.

We find, then, a total of fourteen cases of chronic pulmonary tuberculosis occurring in a group of forty-four children under 16 years of age. Nine of these were under 10 years, and two less than 6 years old.

These figures justify the observation that phthisis of adult form does occur in very early childhood sufficiently often to warrant its careful consideration by clinicians.

ROENTGEN-RAY TYPES

It is commonly accepted that the roentgen ray usually shows structural changes of much greater extent than physical examination would suggest. It has also been noted that in many cases in which the physical examination is negative, the roentgenogram is positive.

This finding was amply corroborated in our series. Fifteen cases were given a negative diagnosis by clinical examination, yet showed structural lung changes consistent with pulmonary tuberculosis. In seven of these the picture was that of infiltration of certain portions of the lung fields. One patient under two years, negative clinically, had infiltration of both apexes.

What importance shall we attach to these findings? In the first place, of course, we must consider the individual history very carefully in order to rule out other infections which might be misread as tuberculosis.

Lapham[9] examined 150 children by roentgenograms, none of the children presenting clinical features of tuberculosis. . Many had changes typical of the disease as shown by the roentgen ray. Lapham gives warning against calling all these changes tuberculosis, because capillary and peribronchial changes following influenza and other acute respiratory infections may lead one astray.

One case is of special interest as emphasizing the need for careful history taking and the correlation of history with all other means of diagnosis before a definite classification is made:

A boy, aged 10 years, was admitted to the Boston City Hospital in November, 1918, with a story of having swallowed a tack. The roentgen ray confirmed this, and four unsuccessful attempts were made to remove the foreign body in the bronchus. The patient then was sent to Philadelphia, where the tack was removed by Dr. Chevalier Jackson in

5. George, A. W.; Boutwell, H. K., and Floyd, C.: The Diagnosis of Thoracic Adenitis, Internat. Clin. **3**: 130, 1916.

6. Heise, F. W., and Sampson, H. L.: A Comparison of Physical Signs, Symptoms and X-Ray Evidence Obtained in Pulmonary Tuberculosis, Am. Rev. Tuberc. **1**: 709 (Feb.) 1918.

7. Holt, L. E.: Diseases of Infancy and Childhood, New York, D. Appleton & Company, 1911.

8. Griffith, J. P. C.: Tuberculosis in Children, New York M. J. **109**: 485 (March 22) 1919.

9. Lapham, Mary E.: Tuberculosis and Roentgen Plates, New York M. J. **107**: 294 (Feb. 16) 1918.

March, 1919. Since the operation the boy has remained underweight and has had a persistent cough. A roentgenogram was taken in December, 1919, which suggested a lung abscess in the left pulmonic field. In November, 1920, physical examination revealed a percussion note and bronchial breathing at the left apex, and crepitant and medium moist râles over the lower left back. Strangely enough, the roentgen ray shows a moderately thickened right hilum with parenchymatous change throughout the right lung field, and a roentgen-ray diagnosis of tuberculosis is made.

However, having carefully ruled out history of other respiratory disturbances, we have still before us the roentgen-ray evidence of a pathologic condition. Dealing with adults, we have no special concern if we know there is no constitutional sign of activity. But what of children with well marked lung changes? Shall we consider them as potential or so-called subclinical tuberculosis and thus poor futurity risks? The issue vitally concerns the clinician and the public health worker.

It seems to us that the ultimate answer is largely to be determined by the social and economic status of the child as the years pass, and that time alone can give us the solution. However, on the law of human chances we feel that too much emphasis cannot be laid on the importance of carefully checking such children as time goes on.

True it is, as one writer has said, that apparently tuberculosis does invade, infect, make mildly sick and then be overcome and completely arrested, meanwhile the true nature of the whole process remaining unrecognized. However, to ignore evidence put clearly before our eyes seems to be to neglect our duty as medical men.

As we advocated the more routine use of the roentgen ray in a way analogous to the tuberculin skin tests, so we believe that all positive roentgen-ray cases in childhood should be checked from time to time and any indicated prophylactic measures taken to avoid a later outbreak of greater severity than the first, resulting, as it would, in economic loss to the individual and to society. By so doing we attack more vitally the vicious circle of the tubercle bacillus.

CONCLUSION

As a result of a statistical study of forty-four infants and children at the Boston Consumptives' Hospital we found that:

1. (*a*) The von Pirquet and intracutaneous skin reactions are reliable guides to infection with tubercle bacilli, and the number of positive reactions increases from infancy up through childhood, over 10 years of age, all patients reacting. (*b*) In twenty-six of thirty-six positive skin reactions, the roentgen ray disclosed the site of infection to be intrathoracic.

2. D'Espine's sign as a clinical index of tuberculosis of the bronchial lymph nodes is of relatively little value, being elicited only eleven times, as against roentgen-ray evidence of glandular enlargement in twenty-eight cases.

3. Three cases of positive sputum were found in fourteen diagnoses of chronic pulmonary tuberculosis.

4. Fourteen cases of chronic pulmonary tuberculosis of the adult type were found. This suggests that the so-called phthisis is more common in children than has been stated by writers of textbooks.

5. Fifteen cases, negative clinically, showed definite roentgen-ray signs of marked structural changes consistent with tuberculous infection. This raises the question as to whether these children are to be regarded as more likely to develop clinical tuberculosis and should thus be watched carefully and roentgenographed at fairly frequent intervals.

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THE SOCIAL RESPONSIBILITIES OF MODERN MEDICINE*

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The problems of social medicine are peculiar to the present generation; their development is due to the change that has taken place in the relations between physicians and the public. Up to the middle of the last century, medical practice was individual. No one consulted a doctor until afflicted with some specific disorder. The only interest that the physician had in the patient was a personal one. Little was known regarding the cause of disease, the method of its transmission or the means for its prevention. If a physician was called to see a patient suffering from typhoid fever, he treated that patient until he recovered or died. There was no way of knowing how the patient had acquired the disease, or how any other individual could acquire the disease from him. The physician had no responsibility to the community, since there was no act of his, the performance or omission of which could in any way affect society, either favorably or unfavorably. All that he could do was to care for his patient and, so far as possible, in the case of those diseases which experience had shown to be infectious, to prevent others from contracting them. As Sir George Newman, the chief medical officer of the British Ministry of Health, says, up to 1850 the medical profession had no public or social functions or responsibilities except the enforcement of such crude methods of quarantine as had been developed through experience. Public health work up to the last half century was largely accidental and empiric.

Today an entirely different situation exists. Modern medicine has a social value as great as, if not greater than, its individual importance. The development of the natural sciences during the nineteenth century has increased our knowledge of diseases and their prevention more rapidly during the last fifty years than in the preceding 1,800 years of the Christian era. The development of preventive medicine since 1870 is too well known to need recounting. Today, if a physician is called to see a patient and makes a diagnosis of typhoid fever, while he will naturally do everything possible to promote the comfort and recovery of his patient, yet the determination of the source of the disease and the prevention of the development of other cases from the initial case as a focus, i. e., the social aspects of the problem, are of as great if not greater importance than the treatment of the individual patient. This becomes increasingly true as the disease increases in rarity and severity. Suppose a single case of bubonic plague were discovered tomorrow in New York City. The correctness of the diagnosis in this single case would affect directly or indirectly every man, woman and child of the millions in New York and of the many millions in the

* Read before the Medical Association of the State of Alabama, Montgomery, April 20, 1921, and before the Medical Society of the State of North Carolina, Pinehurst, April 26, 1921.

eastern half of the nation. A single case of Asiatic cholera unrecognized in one of our seaports might easily change the currents of trade and affect millions of dollars of capital and innumerable human beings. Modern scientific medicine is today one of the most vitally important and indispensable factors in modern life, and we have as yet only seen the beginning. We cannot now appreciate or realize the possible benefits which our present and future knowledge of diseases and their control will have on the well being and happiness of the human race.

For half a century our knowledge, as Tennyson says, has "grown from more to more," but our professional habits have remained the same. The social value of medical services is now equal to, if not greater than, the value of medical services to the individual, yet the medical profession is, in its methods, as individualistic today as it was fifty years ago and as it has been for the last five hundred years. In spite of the rapid development of public health administration as a function of municipal, state and national governments and the constantly increasing demand for properly trained and qualified men to serve in official positions, medical students are still trained almost exclusively for the treatment of individual patients. Practically nothing is taught regarding social medicine. If after graduation a physician has an opportunity to take up public health work, he is forced to get his training at the expense of the community after he has been appointed to office. It is only in the last few years that any differentiation has been undertaken between the training necessary for individual practice and that required of a man who desires to devote himself to the service of the community or the state.

What is true of our medical colleges is also true of our medical societies. Papers on public health questions or on social and economic problems are read to a handful of listeners, while the majority of the members flock to some surgical amphitheater to see a surgeon operate on an individual gallbladder, or to listen to papers on the diagnosis and treatment of individual patients. Questions of public policy and legislation, involving the welfare of an entire state, arouse little general interest and are left to a small group of public spirited physicians. Our professional standards are based on the same methods of valuation. An individual's standing or success in the profession is estimated largely by the number of patients he has seen, the number of clinical cases he has reported, or the number of operations he has performed. So long as the profession was limited entirely to individual services, these were natural standards. Today these standards are in need of revision.

If it be argued that in the development of social medicine the physician has contributed his full share of services, often at considerable sacrifice to himself, it can be replied that this is perfectly true and that as health officer or member of a local or state board of health at a ridiculously small and inadequate salary, or as an attending physician or surgeon to a public institution, or free clinic, the great majority of physicians give valuable services worth large sums of money. But it is at the same time equally true that these contributions, magnificently generous as they are, have been contributed by the physician as an individual rather than as a professional participation in a definite social program.

The explanation of this apparently paradoxical situation lies in the fact that today, as for centuries past, the physician makes his living by charging individual patients for individual services; and so long as individual services are the principal source of income of the majority of physicians, there naturally will his chief interest lie. While the development of scientific knowledge in the last fifty years has produced an entirely different conception of the relation of disease to society, of the duty of society to the individual and of the individual to society in the control and prevention of disease, the economic relation of physicians, both as individuals and as a body, to their patients is still practically the same individualistic relation that it has been for hundreds of years past. The medical student of today still gives the greater part, if not all of his time to the study of disease as an individual phenomenon, while the practicing physician gives the bulk of his time and all of his interest to the treatment of individual patients. It is essential that physicians recognize that the treatment of diseases of the community and of social conditions which produce disease and impair efficiency are as much functions of the medical profession as are diseases of the individual, and that they endeavor to qualify for the same services in the social field that they have so magnificently performed and are now performing in the individual field.

If we fail to do so we must expect to see this field taken over by nonmedical workers; as has actually occurred in the last few years in social welfare organizations, made up almost entirely of men and women without medical knowledge and in many cases without scientific training. While an effort has been made to put their theories and practice on a sound basis, the subject is too new, the data too incomplete, and the workers as a rule too little trained to entitle social welfare to recognition as a science. Yet there has been no lack of suggestions from this class of workers as to the remedies which they consider appropriate for existing social conditions.

To attempt to discuss all of the schemes which have been proposed for the improvement of health through social methods would be impossible. The two which have, so far, aroused the most interest and discussion are compulsory health insurance and rural health centers. As remedies for our supposed social ills they require careful consideration.

COMPULSORY HEALTH INSURANCE

Compulsory, state supervised, industrial insurance, social or health insurance as it is variously called, originated in Germany in 1883. Responsibility for it is generally attributed to Bismarck, at that time chancellor of the German Empire. Various forms of state insurance, partial or complete, compulsory or voluntary, have in the last thirty-five years been adopted in many European countries. To discuss the details of this movement in each country is impossible within the limits of this paper.

In this country the subject was first taken up by the American Association for Labor Legislation, which had previously been active in securing the passage of workmen's compensation laws in forty-two states. In December, 1912, it organized its social insurance committee, which in 1914 prepared a tentative draft of a health insurance act. This was introduced in Massachusetts, New York and New Jersey. In 1917, the bill was introduced in twelve other state legislatures. None of these fifteen states adopted the bill. Eight of them, California, Massachusetts, New Jersey, Connecticut, Illinois, Ohio, Pennsylvania and Wisconsin, appointed

commissions to investigate the subject. In Massachusetts and California, two successive commissions were appointed, making in all ten official bodies, which have made surveys, collected evidence, held hearings and issued reports on this question. In New York a reconstruction commission, appointed by the governor, also considered it. In Massachusetts, the first commission reported in favor of compulsory health insurance, and the second commission reported adversely. In California, both commissions reported in favor of the plan, but on a referendum to amend the state constitution to permit the establishment of compulsory state health insurance, it was defeated by a vote of 358,324 to 138,858. In New Jersey and Ohio the commission reported favorably. In Connecticut, Wisconsin and Illinois the majority of the commission reported against it In Pennsylvania the commission recommended further study and investigation. In New York, the governor's commission reported favorably, but the bill failed to pass. Up to the present time it has been introduced in fifteen states and passed in none. Contrary to general expectation, it was introduced in only a single state legislature during the last winter, that of New York, where it has so far remained in committee.

What is this proposed plan, stated in its simplest terms? The standard bill drafted by the American Association for Labor Legislation provides that all employees earning less than $100 per month shall be entitled to medical, surgical, hospital and nursing care, dental treatment, maternity benefits, cash benefits and funeral allowances. These services are to be paid for out of a fund of which two fifths are to be contributed by the employee in the form of compulsory payments of a certain percentage of his wages, variously estimated at from 3 to 7.5 per cent., two fifths are contributed by the employer in the form of compulsory payments of about the same percentage of his payroll, and the remaining fifth is contributed by the state. This fund is to be administered by a local board for each group of 5,000 employees, to be composed of an equal number of representatives of employers and employees, all the local boards to be under a state commission, which determines the conditions of medical treatment, terms of compensation to physician, etc.

Details vary in different bills, but do not affect the principles involved. The maximum annual income as fixed by the British law was approximately $800 a year. That is, only employed persons whose gross annual income was $800 or less came under the compulsory provisions of the law. This has since been raised to $1,200. In the model bill drafted by the American Association for Labor Legislation, the maximum amount is $100 a month. In the present New York bill the limit is $600 per year. The proportionate amounts to be contributed by the three parties also vary in different bills. The amount contributed by each employee is fixed by a sliding scale in accordance with which the amount contributed by the employee decreased and that contributed by the employer increased as the weekly earnings decreased in amount. Employees receiving less than $5 a week pay nothing, the employer pays 80 per cent. and the state 20 per cent. Medical and surgical attendance is provided either by the apppointment of certain physicians as whole time insurance physicians or by the creation of a panel or list of physicians in each district willing to care for those insured. Proposals for the compensation of physicians differ. The payment to each physician of a fixed salary, division among all the physicians on the panel of the amount appropriated for medical and surgical services for the district, and a capitation system by which each physician is paid in accordance with the number of persons treated or the amount of work done during the year, are among the methods proposed.

OBJECTS OF HEALTH INSURANCE

Such is the plan in its briefest terms. Endless discussion has taken place regarding details with the result that the fundamental issues have been lost sight of. What are the arguments in favor of it?

The brief on the model bill prepared by the American Association for Labor Legislation makes the following claims: There is a disproportionately large amount of sickness among the employed. This causes immediate loss of time and wages, and results eventually in incapacity and poverty. There are as nearly as can be ascertained 3,000,000 persons in the United States sick at any one time. Each of the 30,000,000 wage earners loses approximately nine days a year through illness. The resultant annual wage loss amounts to half a billion dollars. The wages paid American working men are inadequate to enable them to meet the expense of sickness and to bear the losses consequent on sickness and incapacity. It is, therefore, it is claimed, necessary to distribute this burden among three parties, viz., the employee, the employer and the state. The objects of the proposed plan are, primarily, two, viz., to reduce to a minimum the amount of time lost by workmen through sickness, and to divide between the state and the employer 60 per cent. of the cost of the illness of employees, leaving 40 per cent. for them to carry as their share.

It would be interesting, if time permitted, to discuss in detail the evidence produced by the advocates of social insurance in support of their proposition. It can only be pointed out here that the arguments in favor of the plan rest on estimates or opinions, and not on facts. The evidence is not "overwhelming," nor does it clearly indicate the need for social insurance. On the contrary, the evidence is fragmentary, incomplete and unconvincing, and many of the conclusions drawn are not justified by the facts. There are no figures showing the death rate in the United States from different causes or in different social and industrial classes, the amount of sickness in the United States for any given period or class, the average income of workmen in the United States, or the average amount of time lost by workmen through illness. Statements made by advocates of the plan are, in the main, based on studies of small groups, the conclusions drawn from these groups being applied at proportional rates to the entire population. Such methods are clearly fallacious. There are no reasonbly complete or convincing data which would justify the sweeping generalization made by the advocates of the scheme. The only way in which convincing evidence can be secured is by a survey made, not to secure evidence to support a preconceived theory, but to obtain facts as to existing conditions as a basis for whatever constructive action may be found necessary. Such a survey has not yet been made in any state.

WHAT HEALTH INSURANCE FAILS TO DO

Let us now examine the plan to determine what it is not. In the first place, it is not insurance. The essential principle of insurance is the distribution of loss from any cause among a large number of persons subject to the same risk, so that the loss of one will be borne proportionately by all. For example, 100,000

men owning houses, either by mutual agreement or by taking out policies under an insurance company, prorate among the entire number any losses that may arise to any one of the number, so that the loss of each one is distributed among the entire group rather than borne by the individual. That is insurance. The proposed plan is not insurance, since it does not distribute the loss among those exposed to the same risk, but brings in two parties in no way sharers of the risk, viz., the employer and the state. If the proposed plan provided for distribution of the entire cost of illness of employees among themselves, either mutually or through a supervising corporation or the state, then it would be insurance. As it is, it is simply a method of taxing all the citizens of the state, either directly or indirectly, in order to maintain the productive efficiency of part of the population. All the cost will ultimately come on the consumer. Neither the employee nor the employer as such will bear any part of the expense involved.

What would happen if such a plan were adopted in any state? The workman, finding that a certain amount was deduced from his wages each week, would immediately demand that his wages be increased enough to make good this deficit. This increased wage would be added to the operating expense of the plant. The employer would hardly be expected to pay his assessment out of his profits. He would add his share to the operating expense account. So that the cost of production and ultimately the cost of the product to the consumer would be increased by the addition of whatever amount the employee and the employer are compelled to pay, and would be paid by the consumer as an indirect tax, as a part of the price of the commodity. The one fifth contributed by the state could only be paid out of money secured by taxation. The proposed plan, therefore, is not insurance at all, but is simply a plan for providing medical, surgical and hospital care for employed persons in order to increase the industrial output and so benefit a portion of the population at the expense of the entire citizen body, through direct and indirect taxation.

In the second place, the proposed plan is not health insurance. The object is not the maintenance of health, but the maintenance of productive efficiency. It is neither a medical nor a public health proposition. It is purely an economic measure, intended to maintain the efficiency of the employee and the productiveness of the industrial plant at the highest possible point. There is no evidence that the proposed plan would have any public health value. The best and most reliable information from England is that after ten years' trial in that country it has had no effect on the public health. The term health insurance, therefore, is a misnomer. Instead, it should be called taxation for the increase of industrial production.

In the third place, contrary to popular conception, the proposed plan is not intended for the relief of poverty and unemployment. In England, which has probably the most elaborate system of poor relief laws of any country, the operation of the poor laws has not been altered by the adoption of social insurance. The proposed plan only cares for those who are employed and who are drawing wages. Those unemployed at the time such a law would go into effect, and those incapable of supporting themselves, are in no way provided for under such a plan and would be cared for through voluntary philanthropy or by state charitable institutions, as at present.

In the fourth place, it is unsuited to social, economic and political conditions in this country. It is undemocratic in that it substitutes governmental care for personal responsibility, and creates a definite class of employees. In European countries, classes are fixed and stationary. A man is born into a certain class and remains in it through life. If he is born into a wage-earning family, he becomes a wage earner and generally remains one. In this country we have no such class distinctions. The employee of today is the employer of tomorrow and the member of the leisure class of the day after. He is not only able and willing, but eager to bear his own responsibilities, to assume the burden of his own mistakes and misfortunes and to reap the result of his own enterprise and energy. He does not need or desire governmental supervision.

THE BURDEN OF PROOF

When carefully analyzed, the proposed plan is seen to rest on four propositions, all of which must be proved in order to establish a case. These are:

1. There is a disproportionate amount of sickness among employed persons, causing financial loss, incapacity and poverty greater in proportion than that sustained by the average person, and requiring special methods of relief. Until this is proved there is no reason for special laws for employees.

2. The financial burden caused by sickness is heavier than the average employee is able to bear. Until this is proved there is no reason to assume that he cannot carry his own burden.

3. Present methods of promoting public health and controlling diseases are not adequate. Until this is proved there is no need of devising any new plan.

4. Compulsory state supervised sickness insurance is the best remedy for this condition. Until this is proved it is possible that some other remedy may be better.

The burden of proving these four propositions lies with the advocates of social insurance. No one of them has yet been proved. Nor is there at present any conclusive evidence or any mass of statistics or data by which any one of them can be proved. It is not known how much illness or incapacity exists, either among employed persons or among any other class of our population. It is not known what is the average wage. It is not known whether the burden of illness is or is not heavier than the average employee can bear without assistance. It is not known whether existing agencies are adequate or not. Statements as to the number of persons sick in the United States at any one time, among wage earners, or any other class, or among the population as a whole, or as to the amount of time or money that is lost through sickness are estimates, in many cases are mere guesses, based on generalizations from incomplete and inadequate data and not on facts.

Of the four essential propositions on which the proposed plan rests, the first three cannot be proved, owing to insufficient knowledge. But even if it could be shown that employees as a class are suffering from an undue amount of illness, that the financial cost is greater than they can bear without assistance, and that present methods for remedying this situation are inadequate, it still remains to be proved that the plan proposed is the best remedy. The claim that health insurance is the best remedy for existing social ills is a pure assumption. At least five alternatives must first be considered. They are:

1. An increase in the wages paid to the employed, so that each will be able to bear his own burdens.

2. The development of state, municipal and local health agencies to a point where preventable diseases will be reduced to a minimum and the burden on the individual limited by reducing the amount of sickness.

3. The development of voluntary thrift and saving habits among employees to a point where, through increased thrift and foresight, they may be able to provide for their own emergencies.

4. The development of voluntary industrial insurance on the part of employees and employers in industrial corporations.

5. The development on the part of wage earners and employees themselves of voluntary assessments and benefits through trades unions, benefit associations, etc., for their own protection.

All of these are possible alternatives to compulsory insurance involving the development of methods already in operation. Naturally, existing remedies must be considered and tried before a new and untried scheme is adopted. Just as the surgeon would consider every alternative before advising a radical operation, so the inadequacy of existing methods must be proved before taking up any new and experimental scheme.

The attitude of the organized medical profession on this question has been officially determined. The American Medical Association at the New Orleans session in April, 1920, adopted by a practically unanimous vote a resolution declaring its opposition to any plan of compulsory contributory insurance against illness or any other plan of compulsory insurance, provided, controlled or regulated by any state or the federal government. A number of state associations have adopted similar resolutions. The organized medical profession is, therefore, unqualifiedly opposed to compulsory state health insurance.

HEALTH CENTERS

The second plan for improving the conditions of medical service is generally known under the name of health centers and is an effort to concentrate in one institution in each county or rural community all of the forces for better health conditions. Two forms of such an organization have so far been proposed. The first is that proposed by the American Red Cross, following the close of the war. Before the war, the Red Cross was a limited semi-official organization for the temporary relief of communities in times of disaster. During the war, it developed into an enormous popular organization of 22,000,000 members. Its work both in this country and in Europe is deserving of the highest praise. After the armistice, however, it was one of the few war-time organizations which did not revert to its peace-time status; on the contrary, it has endeavored to retain its war-time membership and public support. In order to do this it was necessary to formulate and present plans for peace-time activities which would be commensurate in importance with the size of the membership and the amount of its income.

Two main projects were announced: rural health centers and public health nursing. The official announcement issued by the American Red Cross, Sept. 25, 1919, defines a health center as a physical headquarters for the public health work of the community, and states that the mobilization of the Red Cross interests and influence in every community should be utilized for the establishment of such health centers. The pamphlet vaguely discusses the various activities of such a center, suggesting as possible features a tuberculosis clinic; a child welfare bureau; community headquarters with reading and rest rooms; headquarters for the district nurse; baby health contests; social hygiene clinical and educational work; industrial health clinics and instruction on the prevention of accidents and industrial illnesses; dental and general clinics, etc.

The other proposed plan for health centers originated in New York, largely as a substitute for health insurance. The Sage-Machold bill, introduced in the New York legislature in March, 1920, divided the state into health districts and provided for a health center in each district. The bill did not pass. The Robinson-Moore bill, now before the New York legislature, is practically the same bill as far as health centers are concerned, but omits the provisions regarding health districts. The object of the bill is to provide the residents of rural districts and all others who cannot otherwise secure such privileges with adequate medical treatment, hospital and dispensary facilities and nurse's care; to assist local physicians by providing laboratory and other service and to improve the public health by authorizing a county or city to create and maintain health centers. The board of supervisors in any county is authorized to establish one or more such health centers. City centers may be established by municipal authorities. The centers are to include a general hospital with special pavilions for tuberculosis and other communicable diseases, children and maternity cases, and mental diseases. There are also to be clinics for outpatients, clinical, pathologic, bacteriologic, chemical and roentgen-ray laboratories auxiliary to the laboratory of the state department of health; public health nursing service; headquarters for voluntary public health agencies; medical laboratories; facilities for medical inspection and supervision of school children, and periodic medical examination of such inhabitants of the district as may desire it. The health center is to be under a board of managers consisting of the county judge, two practicing physicians, one woman and three other members. All persons residing in the district may avail themselves of the health center facilities. Those who are unable to pay are to be given examination, care and treatment free. Others are to pay such charges as may be fixed by the superintendent. Each paying patient shall be treated by the physician he selects. Funds are to be derived from charges for patients able to pay, local public funds, gifts, donations, and bequests from the state aid. Grants from the state are to include: one-half the cost of construction, not to exceed $750 a bed; seventy-five cents per day for each free patient; one-half the cost of installation of each outpatient clinic, not to exceed $5,000; 50 per cent. of the cost of free treatment, not to exceed an average of 20 cents per treatement; one-half the cost and maintenance for the laboratory, not to exceed $3,000, and $1,500 for the initial installation and equipment of each laboratory. Health centers are to be inspected and standardized by the state department of health, and state aid is to be given only to those centers which are approved by the state commissioner of health. This bill at the time of writing is before the finance committee of the state legislature. The plan is, as yet, too indefinite to permit of specific criticism or comment.

Of the two remedies proposed, health insurance is economically, socially and scientifically unsound, while the health center idea as yet exists only on paper. It is not sufficiently developed to admit of definite criticism. Health centers have been developed in a few cities under local leadership, but the plan is as yet too vague to be regarded seriously as a possible solution for a national problem.

A LARGER PROBLEM

While this disposes of the specific questions of health insurance and health centers, a larger problem at once presents itself. Does the rendering of an adverse verdict on these two proposals constitute the whole duty of physicians? Let us apply the same situation to the more familiar field of private practice. Suppose any one of us was called as a consultant in the case of an individual patient. After careful examination of the patient, we find that both the diagnosis and the treatment are wrong. Is our full duty as a consultant performed when we have stated these conclusions to the patient or to his friends? Under such circumstances should we not immediately be asked to furnish the correct diagnosis in place of the erroneous one, and to supply a proper method of treatment as a substitute for the one we have condemned? And should we not all admit that if we refused to do so, there was no alternative remaining but to confess that the case was beyond our ability and knowledge and to withdraw and give place to a more capable consultant?

In the case under discussion the patient is the social body. That it is suffering from certain ills is probably not questioned by any one. The exact nature and extent of these ills, in other words, the diagnosis, is the question at issue. Until an exact diagnosis is made, any proposed method of treatment must necessarily be empiric rather than scientific. We have questioned the views of those who claim to be competent and qualified to diagnose and prescribe for our social ills. We have opposed the treatment which they have prescribed as unscientific and inadequate. Does not this situation constitute a direct and unavoidable challenge to the medical profession, either to furnish a correct remedy for such ills as may be demonstrated or to admit that the case lies outside our province and to withdraw in favor of a better qualified authority?

I think we will all agree that both the making of a diagnosis and the prescribing of the treatment of the diseases of society are at present beyond the ability and knowledge of any one man, either physician or layman. We are at present without the exact knowledge of social conditions necessary for accurate diagnosis of social ills, nor will such a diagnosis be possible until we exert the same energy, ability, industry and perseverance in the study of social ills that the medical men of our own and previous generations have shown in investigating the disease of the individual. But the assumption of this task is an assertion of our belief that the study and treatment of social ills are just as much functions of the modern physician as are the diagnosis and treatment of the ills of the individual. Are we as physicians willing to take this position and abide by its consequences?

READJUSTMENT OF PROFESSIONAL METHODS TO SOCIAL NEEDS

It is important that physicians should understand clearly the significance of the present agitation for social reforms in the health field. To regard this movement as an isolated and single phenomenon would be a serious error. On the contrary, it is due to a series of causes which spring from the same sources as the development of scientific medicine. The medical profession itself, through its labors and progress, is very largely responsible for the present situation. For fifty years we have been so busy extending our knowledge that we have not had time to adjust our methods to conform to changing conditions. While we possess scientific knowledge which enables us to render service of greater value than any other professional group can offer, we have continued to do business on the old basis of so many dollars for so many calls on the individual patient. Yet the medical services which can be rendered and which in the future must be rendered to the community by physicians are of far greater value than any service which we can render to the individual. Medical services have grown in value until, under present methods, modern, up-to-date medical attention is beyond the reach of the majority of persons unless they secure it through charity. Health insurance is only one of the schemes proposed whereby adequate medical services can be put within the reach of the average workman. The fact that this particular plan is economically unsound and that it probably would be ineffective in operation does not relieve us of the immediate necessity of devising some method by which adequate medical services can be made available for every individual needing them.

The proponents of the proposed plan, instead of first studying the situation in this country and devising a plan suitable to existing conditions, endeavored to transplant entire from Germany by the way of England a plan unsuited to this country and out of harmony with our social institutions and economic conditions. But condemnation and defeat of health insurance brings us no nearer the solution of the real problem than we were before. There still remains the need, as imperative as ever, of remodeling the economic methods of practice now existing in the medical profession and of substituting for the method of individual services to individual patients some plan whereby each individual as a part of his social right will secure every protection for his health and well-being that modern medical knowledge can give him. The efforts for the adoption of health insurance should be recognized as the beginning of an effort to readjust professional methods to social needs.

RESPONSIBILITY OF PHYSICIANS

In the discussion of this method there are always three distinct groups: First, the conservatives, who desire only that things shall remain as they are; second, the radicals, who look forward with eager vision and often without accurate discrimination to what they hope will be better conditions and who favor any proposed change in the existing status; and third, the mass of the medical profession who have accepted conditions as they found them and have made the best of them, who are willing to adopt new methods if their value can be demonstrated, who are neither wedded to the past, as are the conservatives, nor plunging rashly into the future, as are the radicals. I take it that 75 per cent. at least of our profession belongs to the third class. To you, therefore, I wish to submit what is to my mind the most important and fundamental question in the whole discussion. Briefly stated, it is this: Is social medicine a function of physicians? Is the physician of the future to restrict himself to the treatment of individual patients as he has in the past, or is he to assume the responsibility for the treatment of society and of humanity in the mass as well as of the individual? If he is, then he must qualify himself for this work. If he is not, then he cannot complain if others take up the work which he refuses to do.

I assume there is no difference of opinion as to the answer to this question. The medical profession owes it to society as well as to the individual to render

the best service and to do the best work of which it is capable. It is inconceivable that the highest type of medical service, whether individual or social, shall be rendered by any other than scientifically trained men. But if physicians are going to assume this responsibility, especially if we are going to demand control of this field, as we have of the field of the treatment of individual ills, then we must qualify for social leadership just as thoroughly as we are now qualifying for individual service.

If we are going to assume leadership, then we must have a definite policy, and this policy must be based on knowledge, and not on prejudice and selfish interests. If the medical profession is to undertake responsibility for social service as a part of its professional functions, then social medicine and its problems must be studied and discussed in our medical organizations and medical publications as carefully as the problems of individual medicine. If social medicine is to be one of the functions of the medical profession of the future, then the medical student of the future must be given broad and adequate instruction regarding its problems. He must be taught social anatomy, pathology, diagnosis and treatment as thoroughly as he is now taught the diagnosis and treatment of individual diseases. We must begin in our medical schools to teach the medical student social medicine and to develop in the physician of the future an instinct and a capacity for social leadership.

The issue is plainly before us. Shall we adhere to the methods and practice of the past until we are forced to abandon them, or shall we broaden our methods to keep pace with the ever widening bounds of scientific knowledge? The question must be answered by those who are practicing medicine today, for in their hands lies the future of scientific medicine.

INJECTION OF THE BILE DUCTS WITH BARIUM *

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AND
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Having seen nothing like it in our experience, and having been unable to find anything like it in the literature, we deem this case of sufficient interest to be reported.

REPORT OF CASE

History.—Mrs. L. S., aged 42, the mother of three healthy children, who was admitted to the Johnson-Beall Hospital, Nov. 22, 1919, and whose family history and past history were unimportant, had had no previous serious illnesses, and the only history of an infectious disease was influenza in December, 1918. Her digestion had been good up to the onset of her present illness. This began in August, 1919, with a gnawing pain in the epigastrium. This pain was intermittent in character, had no relation to the taking of food, and would frequently wake her at night. She did not try food or soda at this time to relieve the pain. About four weeks before she was admitted, the pain became much more severe and nearly constantly present, and she began to have nausea and vomiting. She had seen no blood in the vomitus. Since the vomiting began, she had had fever constantly. She did not think that there was much before. For two or three weeks the patient had had numerous chills, sweats, an irregularly high fever, incessant, heavy, dull pain in the epigastrium, and most of the time an extreme degree of nausea and vomiting. There had been no jaundice and no special disturbance with the bladder or bowels.

Examination.—The patient looked extremely ill. She was much emaciated, the face was pinched, and the skin and mucous membranes were pale. He head, mouth, throat and chest were negative. The abdomen was not distended; it was soft in the lower part, but resistant above the navel and very tender. The tenderness extended across the upper abdomen, and was not more marked on one side than on the other. No masses were felt. The patient's temperature on admission was 102; pulse, 112 and of low tension; respirations, 22; leukocytes, 7,000, with 87 per cent. polymorphonuclears. The urine was negative except for a trace of albumin.

Clinical Course.—The patient had two chills in the first twenty-four hours after admission, her temperature ranging from 99 to 102. She vomited practically all nourishment given. Her bowels moved several times.

The day after admission, roentgenograms were taken of the stomach and intestine. The first picture, taken immediately after barium in buttermilk, disclosed a normal stomach. A second picture, taken at the end of six hours, revealed the stomach nearly empty, the duodenum outlined, and above the duodenum irregular branched projections of the barium which

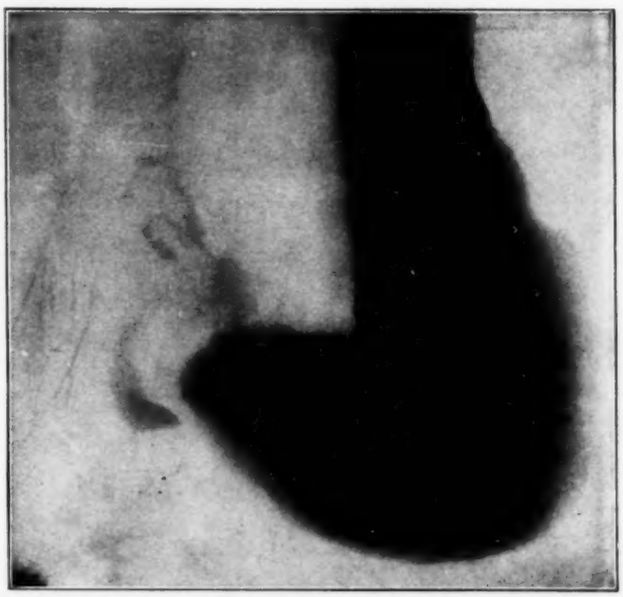

Fig. 1.—Appearance of patient six hours and twenty minutes after barium meal and after more barium had been taken into stomach.

we thought at first might be due to barium which had escaped through a perforation near the pylorus. In order to study this further, more barium was given. A third picture (Fig. 1), taken about thirty minutes after the second, showed what seems to be an injection of the bile ducts with the barium, even to many of the finer radicles in the right lobe. Later pictures offered nothing of special interest.

Operation and Result.—It was three days before the patient's consent could be obtained for an operation. During this time her condition remained about the same, there being much vomiting, and the temperature ranging from 99 to 103. November 26, with a diagnosis of upper abdominal abscess, probably from a perforated gastric or duodenal ulcer, the patient was operated on. The stomach and duodenum apparently were normal, and the gallbladder and ducts were normal in appearance. The gallbladder, when palpated, felt as if it contained air. The pancreas was felt as a hard, enlarged mass behind the stomach, being especially large toward the tail. The lesser peritoneal cavity was opened through the gastrocolic omentum. The upper and left part of the cavity was obliterated by adhesions. These were separated with the finger, and an abscess containing about 3 ounces of thick, creamy, odorless pus was opened. A large rubber tube was put into the abscess cavity, the gastrocolic omentum sutured

* Read before the Texas Surgical Society, Nov. 9, 1920.

tight about the tube, and the tube sutured to the skin. The gallbladder was opened and drained. No stones were found. The bile was clear and green, and the presence of gas was not demonstrated, though we are sure it was present. A diagnosis of acute pancreatitis, with abscess and insufficiency of the papilla of Vater was made.

The patient did well at first. Vomiting ceased, and the temperature was steady at 99 for five days. The drainage became clear and limpid, and caused marked irritation of the skin. December 1, the patient's temperature went up to 102, and she complained of feeling weak and of difficulty in breathing, though her respirations were not much increased in rate. The next day there was a chill with a temperature of 105, the patient's pulse became weak and very rapid, and she was delirious. She never rallied, and died, December 6. No abnormal signs were found in the lungs. Necropsy was refused.

COMMENT

For comparison, we have roentgenographed the injected bile ducts of a necropsy subject (Fig. 2). In making the injection, enough force was used to rupture

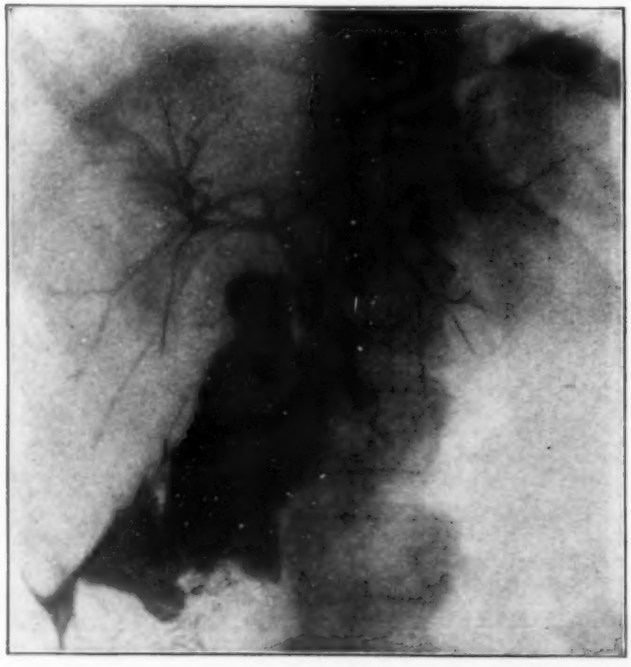

Fig. 2.—Necropsy subject with bile ducts injected with barium. Gallbladder ruptured and barium forced into abdominal cavity.

the gallbladder, causing a spilling of the barium in the abdominal cavity. Injection was made through the papilla of Vater after the duodenum had been opened. While the two cases show a somewhat different arrangement of the ducts in the liver (which can be explained on the grounds of individual peculiarities), the similarity is enough, without the added clinical evidence, to make it certain, we think, that we really had an injection of the bile ducts in this case. In our case the barium did not go into the gallbladder; but the similarity of the tortuous cystic ducts in the two cases is striking.

In the absence of a necropsy study, any theory as to why the papilla of Vater should have been patent would be idle speculation; but the thought has occurred to us that this may be a common condition. Had it not been that the patient under consideration was vomiting frequently, which we think is what forced the barium into the bile ducts, the condition of the ducts would never have been discovered. Then, too, it is unusual to take stomach pictures in persons who are vomiting excessively. Might it not, then, be possible that many patients with a similar condition are roentgenographed and the condition not discovered because the vomiting is not present to force the barium into the ducts? And if an insufficiency of the papilla of Vater should prove to be of common occurrence, may we not have to reconstruct our ideas of the etiology of acute pancreatitis, about which the proponents of the theories of obstruction to the ducts and of lymphatic extension from the gallbladder have had so much to say in recent years?

703 Lamar Street.

PANCREATIC CYST FOLLOWING CHOLECYSTECTOMY

MAX BALLIN, M.D.
AND
HARRY C. SALTZSTEIN, M.D.
DETROIT

The case here reported shows clinically pancreatitis, cholelithiasis, cholecystitis and, subsequent to cholecystectomy, the development of a pancreatic cyst:

REPORT OF CASE

History.— A. L., a man, aged 46, a janitor, first seen by us, Sept. 2, 1920, whose family and personal history showed nothing of importance in regard to the present condition, except for a dull pain in the epigastrium of short duration some time in January, 1920, had felt well until June 17, 1920. On that date he was suddenly seized with severe pain in the epigastrium. This lasted twelve hours.

Three days later, a similar pain started, "doubling him up," so that he went home in a cold sweat. The pain radiated from the epigastrium down the left side of the abdomen. It was severe for forty-eight hours, but he was in bed three or four days before it wore off completely.

He then felt well until July 7, 1920, when he had another attack. Dr. Robert C. Moehlig saw him then. The pain was in the epigastrium and down the left side of the abdomen as before, but there was also sharp radiation to the right and to the back. Next day the pain was well localized in the right upper quadrant, and radiated to the right side of the back. This attack lasted two days.

For the next few weeks he frequently had dull pains across the epigastrium, chiefly to the left of the midline; gastric ulcer was suggested by one consultant. On August 25 there was another severe seizure. At this time he had a sharp right abdominal colic.

Roentgenoscopy, September 3, by Dr. W. A. Evans, was negative as to ulcer and gallstones. The duodenal cap was drawn down.

Examination.—The patient was well developed, with a slight subicteric tint. There was a small area of tenderness in the epigastrium and toward the right, and indistinct rigidity over the gallbladder region. The urine was negative. The Wassermann reaction was negative.

First Operation.—September 13, the patient was operated on. The gallbladder appeared as an elliptic, distended tumor four by three inches in diameter. It was tightly filled with stones, even in the cystic duct, and the wall was greatly thickened and edematous. The common duct was exposed, but contained no stones. Cholecystectomy was performed, with one gauze drain and one rubber drain to the stump of the cystic duct. The excised gallbladder was gangrenous, greenish, and contained stones and pus. Microscopic section revealed marked acute and chronic cholecystitis.

Postoperative Course.—There was moderate purulent discharge from the place of drainage, with occasional slight retention. The patient was discharged, September 29.

October 1, two days after leaving the hospital (two and a half weeks after the cholecystectomy), he had an attack of epigastric pain which radiated far down into the left iliac region, where it localized and remained for twenty-four hours. October 12, he had a similar, but sharper, attack. These two attacks were like those preceding the operation, except that the pain traveled deep into the left iliac region, and remained there.

October 15 he began having backache, chiefly in the lumbar region, and he noticed a rounded tumor forming in the mid-epigastrium. About this time he also noticed that he could not eat as much as before. No foods disagreed with him, but "the more he got into his stomach, the more his back would ache." After his abdomen started swelling, he had no further sharp pain attacks. Toward the end of November "he could eat a small potato, and a bit of meat, but then he could not finish a cup of tea, because his back would ache." Drinks caused more discomfort than solid food.

Examination, November 27, revealed a prominent tumor in the upper abdomen, more to the left than to the right of the midline. It was larger than a man's head, having increased very rapidly under observation during the last two or three weeks. It was firmly fixed posteriorly, fluctuating, and clearly cystic in character. To the left it extended far into the hypochondrium; in the midline it reached the xiphoid process; and to the right, the outer edge of the right rectus abdominis, while its inferior margin could be appreciated 3 inches below the umbilicus. The percussion note over the height of the tumor was dull. About the periphery there was tympany (Fig. 1). There was a transmitted pulsation in the tumor, but no audible or palpable thrill.

On roentgen-ray examination by Dr. E. G. Minor, November 15, the cardiac portion of the stomach was observed to fill readily; then there was a slight delay, and the pyloric end filled, the meal passing from the cardia to the pylorus in a thin stream. A plate made several hours later showed the barium in the small intestine, but this surrounded a large central circular area where no barium filled loops were visible (Fig. 2).

Second Operation.—December 1, a 2-inch incision was made in the midline between the xiphoid and the umbilicus. The stomach immediately appeared, being located just in front of the tumor, flattened between it and the anterior abdominal wall. (An exploratory abdominal puncture would have entered the stomach before entering the cyst.) The veins along the greater gastric curvature were enormously dilated. The large cystic tumor came closest to the anterior abdominal wall between the stomach and the colon, distending the gastrocolic ligament The gastrocolic ligament was incised in an area free from vessels, and the cyst punctured with a trocar. Four quarts of brownish, thin fluid were evacuated, and a piece of cyst wall was resected for pathologic examination. A large tube was sewed into the cyst, and the abdominal cavity protected by strips of gauze about the tube.

Pathologic and Chemical Examinations.—The cyst wall was 3 mm. thick and showed a dense hyaline structure. The fluid was dark brown, neutral to slightly acid, and contained bile pigments and bile acids. Amylase was very actively present, trypsin present but weaker. There were many red cells and an occasional white blood cell.

Postoperative Course.—There was profuse brownish drainage for several days (December 2, 12 ounces; December 12, 3 ounces); then the cavity closed slowly. The skin was protected by a wax mixture to prevent digestion. March 16, 1921, there still was a narrow sinus 2 inches in depth, with a scanty mucoid, saliva-like discharge.

Summary.—A man, aged 46, had four attacks of severe epigastric pain, generally radiating to the left, and twice typically radiating to the back and right shoulder, during three months. A gangrenous gallbladder with stones far down the cystic duct was removed. Two and a half and four weeks after cholecystectomy there were two colics, radiating down the left anterior abdomen to the iliac region. Shortly afterward the symptoms of an epigastric tumor began, with gradually increasing pressure on the stomach and retroperitoneal regions. At the second operation, two and a half months after the first, a pancreatic cyst was drained. It held 4 quarts of brownish fluid, which contained pancreatic ferments and bile.

PANCREATIC CYSTS AND PANCREATITIS

The pancreas is an actively secreting gland overlying the spine. It has a thin capsule, and, especially in thin abdomens, and when the stomach and colon are empty, is very liable to trauma. A heavy blow on the abdomen, a kick from a horse, a crushing injury, as a cart wheel passing over the abdomen, have been followed by collections of fluid in the lesser peritoneal cavity. These are often attached to the pancreas only at one place—where the capsule ruptured. They may be filled with blood.

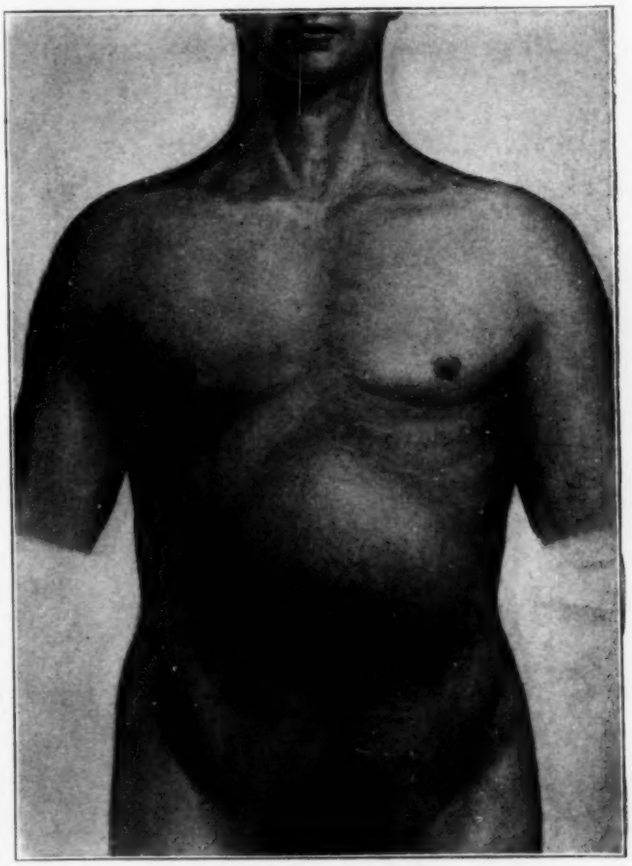

Fig. 1.—Tumor formation caused by pancreatic cyst.

Obstruction to the outflow of the gland is the cause of most of the chronic pancreatic cysts coming to operation. The obstruction may be in the excretory duct (stone, tumor, stricture, adhesions about the pancreas, swollen lymph glands), or "by a combination of compression from without and obstruction from within. The most frequent cause is chronic interstitial pancreatitis; compression and constriction of the ducts result from the development and contraction of connective tissue, thus leading to stagnation of the secretion." [1]

The association of gallstones and pancreatitis is variously given as between 50 and 65 per cent.[2] Mayo [3]

1. Mayo-Robson, A. W., and Cammidge, P. J.: The Pancreas, Its Surgery and Pathology, Philadelphia, W. B. Saunders Company, 1907, p. 488.
2. Heyd, C. G.: Association of Pancreatitis and Biliary Affections, Buffalo M. J. 72: 488 (May) 1917.
3. Mayo, W. J.: The Surgical Treatment of Pancreatitis, Surg., Gynec. & Obst. 7: 607 (Dec.) 1908.

reported that in 80 per cent. of operations on the pancreas, disease was due to or accompanied by gallstones.

STASIS AND INFECTION

In disease of the gallbladder, and its relation to the pancreas, there are two factors—stasis and infection.

Stasis.—Meltzer [4] has emphasized the importance of stasis as a potential factor in diseases of the gallbladder. Bile is secreted continuously, but discharged into the intestine only after meals, the discharge being controlled by the sphincter of Oddi in the duodenal papilla. Abnormal retention must surely be an easy, if not frequent, occurrence. Reasoning by the analogy of the effects of stasis elsewhere, as in the appendix and the urinary bladder, stasis in the biliary tract must also

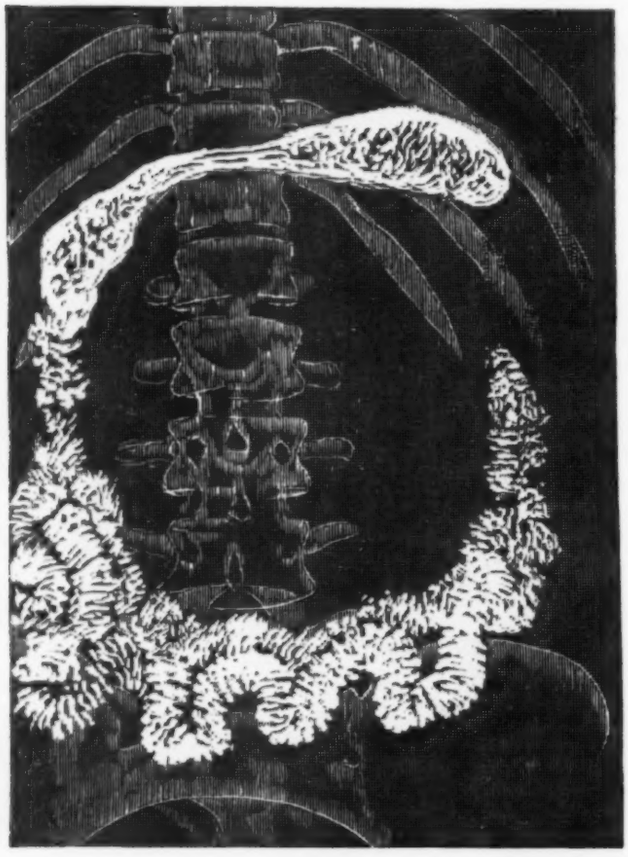

Fig. 2.—Schematic outline roentgenographic finding of pancreatic cyst. Flattened outline of stomach and barium-filled small intestine surround a space free of intestine, occupied by the cyst.

be of great pathologic significance. In fact, patients with pancreatitis and biliary fistula without actual obstruction in the ducts have been cured by simply eating every two hours (traitement alimentaire de fistules biliaires of Doyen). This brings about a practically continuous flow of bile into the duodenum, and hence allows of no retention. Archibald [5] has produced all grades of pancreatitis by allowing bile to flow intermittently into the pancreas under varying pressures (inflow tube fastened into the gallbladder.) [6]

Infection.—Most cases of pancreatitis follow cholecystitis rather than cholelithiasis. While gallstones are four times as common in women as in men, pancreatitis is three times as frequent in men as in women.[2] Speaking of the clinical differences between gallbladder disease in men and women, Rothschild and Wilensky [7] say: "In men, infection frequently dominates the field: cholecystitis is found more often, and stone formation is secondary."

Nordman [8] thus demonstrated the dual rôle of stasis plus infection: With the papilla of Vater closed by a ligature (dogs), thus allowing bile to flow into the pancreas, he could not produce pancreatitis. If, however, bacteria were now injected into the gallbladder, pancreatitis was produced, though bacterial injection without ligation of the papilla produced no result.

The rôle of infection, however, is thought by Archibald and others to be that infection deprives the bile of its mucus, thereby rendering it more toxic; for bile from the hepatic ducts (which does not contain mucus) causes a more virulent pancreatitis than that from the gallbladder, and bile acids are the most toxic of all.

RELATION OF PANCREATITIS TO PANCREATIC CYSTS

There are numerous instances of collections of fluid about the pancreas following pancreatitis. Körte [9] speaks of acute pancreatitis when operation is performed during the first week as showing hemorrhagic areas and sometimes pus in the pancreas: but when operation is performed during the fourth week, a peripancreatic collection of discolored fluid is frequently found.

EXPLANATION OF THE CASE REPORTED

Though the association of cysts of the pancreas and pancreatitis is often commented on, and the relation of gallbladder disease and pancreatitis is fairly well established, we could find no reference in the literature to a pancreatic cyst following so soon after cholecystectomy.

The history of our case suggests that pancreatitis existed before the cholecystectomy. There had been frequent attacks of left abdominal pain. As has been fairly well established by Deaver, Körte and others, left sided pain is characteristic of pancreatitis. A swollen pancreas is a frequent finding in operating for gallbladder disease, when acute left abdominal pain is complained of.

Two or three weeks after the cholecystectomy the pancreatitis pains recurred, and with increased severity. Four weeks after the operation, symptoms of the development of the cyst were noted, and the acute left sided abdominal pains ceased.[10]

Accordingly, the pathologic sequence was:

1. Acute purulent cholecystitis and cholelithiasis, with concomitant severe pancreatitis.
2. Cholecystectomy, followed by some interference to the biliary outflow.
3. Recurrence and accentuation of pancreatic inflammation, with breaking down of pancreatic tissue, and followed by

4. Meltzer, S. J.: The Disturbance of the Law of Contrary Innervation as a Pathogenic Factor in the Diseases of the Bile Ducts and the Gall-Bladder, Am. J. M. Sc. **153**: 469 (April) 1917.

5. Archibald, E.: The Experimental Production of Pancreatitis in Animals as the Result of the Resistance of the Common Duct Sphincter, Surg., Gynec. & Obst. **28**: 529 (June) 1919.

6. When our cyst was incised, there was a large quantity of bile mixed with the cyst contents. Rehling, on incising the pancreas for acute pancreatitis, also found profuse biliary discharge (Heyd, Footnote 2). This is significant of the rôle assumed by retrojection of bile into the pancreas in pancreatitis.

7. Rothschild, M. A., and Wilensky, A. O.: Studies in Cholelithiasis, 1, The Disturbances of the Cholesterin Metabolism as a Factor in Gall-Stone Formation, Am. J. M. Sc. **156**: 239 (Aug.) 1918.

8. Nordman, O.: Experimente und klinische Betrachtungen über die Zusammenhänge zwischen acuter Pankreatitis und Erkrankungen der Gallenblase, Arch. f. klin. Chir. **102**: 66, 1913.

9. Körte, W.: Surgical Treatment of Acute Pancreatitis, Ann. Surg. **55**: 23 (Jan.) 1912.

10. There is no record of the pancreas having been thoroughly examined at the time of the first operation, but certainly any large cyst of the pancreas would not have been overlooked.

leakage of pancreatic secretion and bile into the lesser peritoneal cavity, i. e., pancreatic cyst.

PROLONGED DRAINAGE IN PANCREATITIS

Drainage extended only to the stump of the resected cystic duct, not into the common duct. In our experience this procedure will permit of biliary discharge in cases of common duct obstruction. The question might be considered: Should this case be an argument for more frequent and prolonged common duct drainage after cholecystectomy in cases of infection of the gallbladder? Pancreatitis is now known to be more frequent in these cases than was formerly thought, and unless this is remedied, the patient still has symptoms. Kehr,[11] and more recently Judd,[12] have noted that clinically cholecystectomy per se frequently cures pancreatitis. With the gallbladder reservoir removed, the bile dams up in the extrahepatic ducts, and causes marked dilatation. Dilatation continues until there is enough hypertrophy in the wall of the ducts to overcome the duodenal sphincter, and then bile flows continuously into the duodenum. This allows for continuous drainage of the pancreas secretion and its infection. Our case is one in point. However, cholecystectomy did not cure the pancreatitis.

McWhorter[13] has just raised this point: The sphincter of Oddi normally withstands a pressure of 650 mm. of water. With the expulsile force of the gallbladder removed, the pressure in the extrahepatic ducts is lowered to between 250 and 350 mm. of water —the biliary secretory pressure. Until the biliary pressure rises above the normal figure which the sphincter can withstand, there will be no dilatation. "Consequently cholecystectomy might aggravate a pancreatitis before the sphincter resistance is lowered." That is evidently what happened.

Many surgeons advise drainage of the gallbladder without its removal for pancreatitis. Archibald[14] is emphatic in the statement that in all cases of pancreatitis associated with cholecystitis—in fact, in all cases in which the pancreas shows any induration—there should be prolonged drainage of the common bile duct. In following a series of thirty-five operations on the gallbladder in which the pancreas was noted as enlarged, he concluded that "the shorter the drainage of bile, the more likely to persist were symptoms similar to those complained of before operation; and when the drainage was prolonged for four weeks or more, all such patients were cured permanently." He has advocated as much as three months' drainage for the average case of hard pancreas associated with gallstones.

CONCLUSIONS

Although drawing conclusions from one experience is hazardous, if our clinical reasoning is correct we certainly have seen pancreatitis associated with gallstones recur following cholecystectomy, and in this instance go on to cyst formation. This does not militate against the assertion that cholecystectomy frequently cures pancreatitis, but it *is* evidence that this does not always happen. Perhaps the conclusion is justified that in cases of pancreatitis complicating gallbladder disease, especially if there is pronounced infection, one of two methods should be followed: (*a*) cholecystostomy with drainage for several weeks, or (*b*) cholecystectomy with additional drainage of the common duct.

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11. Kehr: Gallenwege Chirurgie, München, 1913.
12. Judd, E. S., and Mann, F. C.: The Effect of Removal of the Gall-Bladder, Surg., Gynec. & Obst. **24**: 437 (April) 1917.
13. McWhorter, G. L.: The Surgical Significance of the Common Bile-Duct Sphincter, Surg., Gynec. & Obst. **32**: 124 (Feb.) 1921.
14. Archibald, Edward: Effect of Prolonged Bile Drainage in the Cure of Subacute and Chronic Pancreatiits, J. A. M. A. **71**: 798 (Sept. 7) 1918.

DISLOCATION OF THE SACRO-ILIAC JOINT

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The sacro-iliac ligaments are so strong that it hardly seems possible that dislocation of the joint could occur; it would seem much more likely that violence sufficient to cause rupture of those ligaments would lead to fracture of the pelvis in preference, and in most cases would cause death. In most cases of this injury which have been placed on record, the majority have been fatal or have been accompanied by fracture of the pelvis. Dislocation of the sacro-iliac joint has also been noted as a complication of diastasis at the symphysis pubis. One case recorded by Dubreuil showed diastasis at the symphysis accompanied by dislocation at both sacro-iliac joints. Cotton states that "all cases of double diastasis up to date have been fatal from associated intrapelvic and intra-abdominal injury, or tearing of the iliac vessels." Cotton further states that he has no personal experience of the lesion, and that the recorded cases give little detail as to the results. With such a scant amount of material on record, it seems worth while to give details of a case that came under my observation.

Separation of sacrum from ilium on left side.

REPORT OF CASE

K. S., a boy, aged 8, referred by Dr. Pickard of Oxbow, Sask., was in an automobile, Sept. 5, 1920, which was struck at right angles by an express train at a level crossing. The car was somehow picked up and carried on the front of the engine. The other occupant of the car was merely bruised. The patient was severely injured. During the first twenty-four hours he nearly died. He had retention of urine for three days with "quite a quantity of blood on the first catheterization." There was a slight rise of temperature and, for the first three days, a good deal of vomiting. From September 8 onward, the bowels moved and urine was passed voluntarily. The diagnosis of dislocation of the left sacro-iliac joint was made by Dr. Pickard.

When seen by me, September 11, there was considerable subcutaneous ecchymosis in the left lumbar region. There was also a large swelling in the left lumbar and left iliac regions, probably extravasation of blood from injury to the left kidney. Pronounced bruising was present over the left posterior superior spine, and this bony prominence was projecting distinctly. Routine examination of the nervous system disclosed that the patient was unable to extend the left leg on the thigh. The weakness of the extensor muscles was thought to be due to interference with the anterior crural (femoral) nerve by pressure from the surrounding blood clot. There was also slight weakness of the hamstring muscles on the left side, but no paralysis. A roentgenogram showed distinctly the separation on the left side between the sacrum and the ilium. No fracture of the pelvis was made out. It was decided to wait until the effects of the bruising had settled down, and then attempt to fix the sacrum to the ilium. By September 21, power had returned to the extensors of the thigh, and on September 23, operation was performed. A curved incision exposed the region of the injury from behind, and with an electric saw, the portion of the ilium which projected posteriorly was removed. The adjacent portions of bone—sacrum and ilium—were then freshened, and the detached piece of bone was jammed in between them, no sutures being used to keep the graft in place.

The patient was returned to bed with a pelvic binder, and was kept recumbent for two months. November 15, a roentgenogram showed the graft in position. November 22, the patient was allowed to walk, and a week later he was sent home.

In a letter from this patient dated March 14, 1921, he states that he can walk and run as well as he ever could. He has no pain and no stiffness in the hip region. He does not feel as strong as before the accident, but is steadily improving.

COMMENT

It is difficult to see what could be done for this condition other than what was done in this case. The recommendations of the textbooks, so far as they mention the lesion, are to apply a tight "pelvic swathe." So much, however, does the mechanism of the body in standing or walking demand a stable sacro-iliac region, that it seems preferable, if possible, to bring about a bony ankylosis, especially in the case of a male patient. In any case, the backward projection of the posterior superior spine is a deformity which is likely to be associated with considerable discomfort from pressure, so that the smoothing down of this body projection is in itself a desirable end.

The nature of the accident was such that it is impossilbe to tell with precision how the dislocation was brought about, but it is probable that a direct blow was administered over the sacrum, and that this bone was driven past the ilium, rupturing the sacro-iliac ligaments as it went, in much the same way as the base of the skull can be fractured by a fall on the feet from a height.

THE SPHENOIDAL SINUS AND THE TEMPORAL LOBE

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The sphenoidal sinuses very commonly pneumatize the entire sphenoidal body, even extending into outlying portions of the sphenoid and into neighboring bones: the pterygoid processes, the greater and lesser wings, the rostrum, and the anterior and posterior clinoid processes of the sphenoid are invaded. Extrasphenoidal extensions of the sphenoidal sinuses into the occipital, palate and ethmoid bones and the maxillae are not uncommon.

The sphenoidal sinuses vary greatly in size and shape. Asymmetry of the sinuses is the rule, the septum rarely being in the midsagittal plane throughout. The sinus frequently is not a simple chamber; incomplete septums, recesses and diverticula beset its walls. However, this note is intended simply to refer to the extension of the sinus sufficiently far into the great wing of the sphenoid beneath and lateral to the dural cavernous sinus to come into relationship with the temporal lobe of the brain.

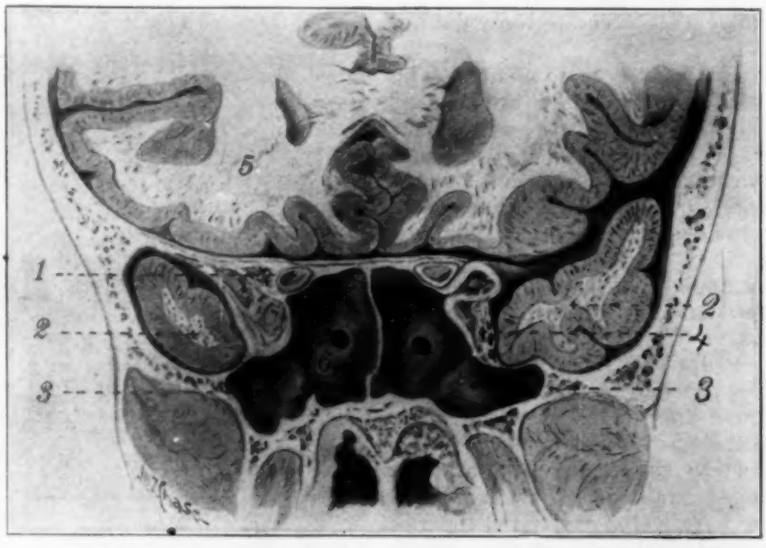

Fig. 1.—A drawing of a frontal section through the sphenoidal sinuses at the plane of the tip of the temporal lobes. The frontal walls and ostia of the sphenoidal sinuses are exposed. Particularly note the recess-like lateral expansions of the sphenoidal sinues beneath the cavernous sinuses to come in contact with the temporal lobes. 1, optic nerve; 2, temporal lobe; 3, lateral recess of sphenoidal sinus; 4, cavernous sinus; 5 frontal lobe; 6, sphenoidal sinus.

It is generally believed that the only direct lateral relationship of the sphenoidal sinus is the dural cavernous sinus and its contained structures. Of the latter, the internal carotid artery and the abducens nerve are always intimately related. The optic nerve, not contained in the cavernous sinus, is found in the superolateral angle of the sphenoidal sinus. The very common lateral expansion of the sphenoidal sinus brings the foramen rotundum and the contained maxillary nerve into direct contact with the sinus. Excessive pneumatization of the sphenoidal sinus beneath the cavernous sinus occasionally leads to a direct relationship with the foramen ovale and the contained mandiular nerve.

The sphenoidal sinus may invade the great wing of the sphenoid beyond the point of the large foramina. In such cases the sinus and the temporal lobe are so intimately related topographically that one cannot ignore the sphenoidal sinus as a possible factor in temporal lobe abscess.

Cerebral abscess is rarely primary. However, in some cases the most painstaking postmortem examination fails to reveal an external source of the abscess. Of course, it is known that in some cases the extra-

cerebral source of the infection clears up before the cerebral condition is recognized or manifests itself. This occasionally leads to the belief that the abscess in question developed from causes in loco, when in reality an external factor was primarily operative. Late recognition of some brain abscesses may in part be due to the location of the lesion. The temporal (temperosphenoidal) lobe is important in this connection, since some of its portions represent what are often referred to as silent areas, e. g., there are no known functions. Moreover, it at times occurs that brain abscesses due to middle ear and paranasal sinus disease have no demonstrable connection with the initial location of the lesion.

Generally speaking, therefore, brain abscess is usually a secondary process, the result of a number of causes: (*a*) direct infection in head injuries; (*b*) metastases from distant foci; (*c*) direct extension of suppurative lesions in the middle ear, the mastoid cells and the related dural sinus, the paranasal sinuses, etc. It has been found that brain abscesses which arise by direct extension of suppurative foci in the extracranial cavities are chiefly situated in the white matter of the brain directly over the cavities concerned. Therefore, an appreciation of the topographic relation between the middle ear and the paranasal sinuses and the brain are of utmost importance in the localization of brain abscesses which are secondary to paranasal sinus disease, etc.

Fig. 2.—A photograph of a frontal section through the sphenoidal sinuses, brain, etc., at the level of the anterior poles of the temporal lobes. Note the incomplete osseous septums in the right and left sphenoidal sinuses, leading to recesses which extend laterad beneath the cavernous sinuses and come in contact with the temporal lobes. The exposure of the photograph is such that one looks toward the dorsal wall of the sphenoidal sinuses. 1, temporal lobes; 2, optic nerve; 3, cavernous sinus and contained structures; 4, septum between the right and left sphenoidal sinuses; 5, incomplete osseous septum partially dividing the right sphenoidal sinus; 6, lateral recess-like expansion of the left sphenoidal sinus; 8, nasopharynx.

Of the extracranial cavities the middle ear, when diseased, is most commonly at fault in giving rise to cerebral abscess, and the importance of the relationship is well known. The relations of the frontal sinus and the ethmoidal cells are also fairly well established in this regard. However, the sphenoidal sinus merits further study in this connection despite the fact that suppurative processes in its cavity seldom are said to give rise to cerebral abscess. Indeed, it is only when the sphenoidal sinus pneumatizes sufficiently far beneath the cavernous sinus and into the great wing of the sphenoid that the topographic relationship between the temporal lobe and the sphenoidal sinus is intimate and important. A knowledge of this occasional anatomic relationship may help in interpreting some of the obscure temporal lobe abscesses. In such cases careful rhinoscopic and roentgenoscopic examinations of the sphenoidal sinus should be made.

Coronary Arteritis in Cardiac Syphilis.—In fifty cases studied at necropsy a coronary arteritis of relatively greater degree than that present throughout the blood vessels of the body at large was found in thirty-five instances.—Harlow Brooks, *Am. J. Syphilis* **5**:223, 1921.

EFFECT OF INTRAVENOUS ADMINISTRATION OF ARSPHENAMIN, NEO-ARSPHENAMIN AND MERCURY

ON THE WASSERMANN TEST IN NORMAL SERUMS *

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In a recent paper, Strickler, Munson and Sidlick [1] have raised the question of the influence per se of intravenous injections of arsphenamin on the Wassermann test in normal individuals. Owing to the fact that, in any large syphilitic clinic, one may find a certain number of so-called Wassermann-fast individuals who, while clinically well, still give a positive Wassermann reaction in spite of vigorous intravenous therapy, their investigation was conducted to determine, if possible, whether or not a positive complement fixation reaction could be induced in nonsyphilitic patients as a result of intravenous arsphenamin therapy. Their clinical material consisted of thirty patients with various dermatologic conditions, all of whom complied with the following criteria: (*a*) The Wassermann reaction was negative; (*b*) they had a negative syphilitic history, and (*c*) the skin lesions were definitely nonsyphilitic.

Following the intravenous injection of arsphenamin, the report states that sixteen, or 66 per cent., gave at least one positive Wassermann reaction; fourteen, or 58 per cent., gave two or more positive reactions, and nine, or 38 per cent., gave reactions of ++ or greater intensity. If these results are corroborated and confirmed, they will have a most important effect on the value of the Wassermann test as a guide to the progress and efficiency of treatment, and especially on the usefulness, value and interpretation of the provocative Wassermann tests.

While the experiments were undoubtedly carefully controlled and carried out, it remains a fact that satisfactory criteria of the absence of syphilis in the patients of a general clinic are difficult to obtain. A single negative Wassermann reaction may be, and not infrequently is, obtained in the presence of syphilitic infection, as the experience of serologists and syphilographers will testify; while the history of venereal cases is notoriously unreliable, and the presence of coincident, nonvenereal diseases is a not unusual concomitant.

* From the Laboratories of the Pittsburgh Hospital.

1. Strickler, Albert; Munson, H. G., and Sidlick, D. M.: A Positive Wassermann Test in Nonsyphilitic Patients After Intravenous Therapy, J. A. M. A. **75**:1488 (Nov. 27) 1920.

Moreover, as pointed out by Kolmer,[2] if the intravenous injection of arsphenamin will give rise to a positive Wassermann reaction in nonsyphilitics, a similar change should occur in those with syphilis, since the reaction can only be due in the former case to chemical changes arising through the action of arsphenamin and causing the presence in the blood of lipoidal bodies capable of reacting with the antigens used in the Wassermann test. On the contrary, however, the experience of serologists and syphilographers conclusively indicates that a positive Wassermann in a syphilitic may be changed to a negative reaction by the intravenous injection of arsphenamin.

Kolmer also calls attention to the fact, well known to syphilographers, that the serum of a person with latent syphilis giving a weakly positive or even a negative reaction may yield a stronger reaction after the institution of treatment, occasionally accompanied by a symptomatic exacerbation of the disease and constituting a "serologic Herxheimer reaction," which he knows no reason to doubt as being due to the influence of the drug on the activities of *Spirochaeta pallida*.

In the same communication, Kolmer refers to experiments conducted by himself and Dr. Pearce on the effect of intravenous therapy in Wassermann negative rabbits, the drugs being without effect on subsequent Wassermann tests. Owing to the importance of this question and its direct relation to the provocative Wassermann test, these experiments have been repeated at Dr. Kolmer's suggestion and are herewith reported. Because it has been shown that the serum of normal rabbits, especially after heating to 55 C. for thirty minutes, may sometimes yield a positive complement fixation test, due care was used to select rabbits whose serum was consistently Wassermann negative. Pearce and Kolmer[3] have shown that, if the serum of a rabbit reacts negatively, it continues to do so for indefinite periods of time, and it was thought safe, therefore, to use animals whose serums were negative on two consecutive tests.

Following Kolmer's technic, these Wassermann negative rabbits were divided into three series:

Series A: These animals received three intravenous injections of arsphenamin solutions in doses of 0.01 gm. per kilogram of weight, equivalent to 0.6 gm. per 60 kg., or the weight of a young adult.

Series N: These animals received three intravenous injections of neo-arsphenamin solution in doses of 0.02 gm. per kilogram of weight, equivalent to 1.2 gm. per 60 kg.

Series M: These animals received intravenous injections of solutions of mercuric chlorid in doses of 0.00033 gm. per kilogram of weight, equivalent to 0.0193 gm. per 60 kg.

The drugs were given at weekly intervals, blood for the Wassermann test being withdrawn just prior to each injection, thus being taken one week after the preceding dose of each drug. The conditions, therefore, closely approximated those in the investigations of Strickler, Munson and Sidlick except that rabbits were used, thus excluding the possibility of syphilis and a provocative reaction.

The Wassermann reactions were performed by Kolmer's second method, using three antigens: cholesterinized extract of human heart; acetone-insoluble lipoids of human heart, and an alcoholic extract of syphilitic liver.

The results were uniformly negative, a positive Wassermann reaction not being produced in any animal of any series.

While these animals received less than the number of injections in Kolmer's series (from 6 to 10), and while it is conceivable that the effect of arsphenamin, neo-arsphenamin and mercury on the qualities of human serums may vary from that produced in the serum of the normal adult rabbit, these results are, nevertheless, believed to be of significance and to indicate the necessity for further and extensive investigations of this subject.

2. Kolmer, J. A.: The Question of Positive Wassermann Reactions Caused by the Intravenous Administration of Arsphenamin, Correspondence, J. A. M. A. **75**: 1796 (Dec. 25) 1920.

3. Pearce, R. M., and Kolmer, J. A.: Infect. Dis. **18**: 32 (Jan.) 1916, quoted by Kolmer, J. A.: Infection, Immunity and Specific Therapy, Ed. 2, Philadelphia, W. B. Saunders Company, p. 420.

CONTAMINATION OF THE HANDS AND OTHER OBJECTS IN THE SPREAD OF CONTAGIOUS DISEASES

FURTHER OBSERVATIONS ON SECONDARY INFECTIONS IN HOSPITALS FOR CONTAGIOUS DISEASES *

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A study of the rôle played by the contamination of hands and other objects in the production of secondary infection in hospitals for contagious diseases was made in 1919 by Weaver and Murchie[1] in the Durand Hospital of the John McCormick Institute for Infectious Diseases. They cultivated hemolytic streptococci from 9.3 per cent. and diphtheria bacilli from 3 per cent. of the hands of pupil nurses, rarely from the hands of specially trained nurses. The same organisms were also cultivated from door knobs.

During the last year similar observations have been continued, and extended in some directions. The technic has been essentially the same as that used in the former study. In the rooms occupied by diphtheria patients, diphtheria bacilli and hemolytic streptococci were sought on nurses' hands after washing in the routine way with soap and warm running water, on the soles of their shoes, on the floor and wall adjacent to the bed, on the door knobs and on other objects. In sixty-nine cultures thus made, diphtheria bacilli were not found, although organisms simulating them were frequently seen. Repeated frequent transfers of the suspected organisms on Loeffler's medium did not show an increase in the ratio of these organisms, and in only one instance could the suspected organism be isolated in pure culture. This culture was not virulent for guinea-pigs. This does not necessarily mean that diphtheria bacilli may not be found on surfaces liable to contamination by secretions, but it indicates that such contamination is not very frequent. These findings correspond to those of Hill.[2] In the same rooms, hemolytic streptococci were grown from the wall once in ten cultures, and three times in the seven cultures from the soles of nurses' shoes. No hemolytic streptococci were cultivated from the hands, floor, door knobs, hand brushes and electric light buttons.

* From the Durand Hospital of the John McCormick Institute for Infectious Diseases.

1. Weaver, G. H., and Murchie, J. T.: Contamination of the Hands and Other Objects in the Spread of Diphtheria, J. A. M. A. **73**: 1921 (Dec. 27) 1919.

2. Hill, H. W.: Proc. Thirteenth Annual Meeting, American Public Health Association, 1902.

One hundred and five cultures were made from the surroundings of patients with scarlet fever, and from the face masks, hands and shoes of nurses caring for these and examined for hemolytic streptococci. Cultures from face masks worn by the nurses as a routine were taken thirty-two times. The cultures were taken only of the external surface of the mask, cultured and in two, or 6.2 per cent., hemolytic streptococci were found. Cultures of the finger nails of the nurses were taken twenty-five times, in all instances after routine washing of the hands with soap and warm water, and once hemolytic streptococci were found. Four, or 28.5 per cent., of the fourteen floor cultures showed hemolytic streptococci, and in these instances several colonies were found on each plate. Of nine wall cultures, two showed hemolytic streptococci. Door knob cultures were negative in eight instances. Shoe cultures gave hemolytic streptococci in three of the six cultures taken. Dishes used by the patients are first washed and then sterilized by boiling. Cultures were made from the dishes of eleven patients before use and before cleaning after use. All were negative for hemolytic streptococci before use, while four, or 33 per cent., showed hemolytic streptococci after use.

The cultures of hemolytic streptococci which we have isolated have been further studied by Dr. Tunnicliff as to their fermenting powers, and their response to serum of animals immunized by injections of streptococci from fresh cases of scarlet fever. The complete results of her study will be reported elsewhere. Twenty-five per cent. of the strains reacted in a specific way, but all the organisms in question appear to correspond to those from human sources, and we may infer that the abundance or lack of them in the patient's immediate neighborhood is an index of the degree of dissemination of secretions. Hemolytic streptococci were found more frequently in the surroudings of persons with scarlet fever than in those of persons with diphtheria. This is not surprising, in view of the greater abundance of streptococci in the secretions of the former disease.

We have cultivated pathogenic bacteria much less frequently than did Weaver and Murchie. This may be ascribed to the better technic through which the hands of the nurses are more thoroughly cleaned. It is of interest to note in this connection that the number of secondary or crossed infections developing in the hospital during the time our cultures were made was less than during the period occupied by the former studies of Weaver and Murchie. In 1920, when we were taking cultures, secondary infections occurred in 0.24 per cent. of the patients; while in 1919, when cultures were made by Weaver and Murchie, secondary infections occurred in 1.77 per cent.

The finding of hemolytic streptococci on the floor and on the shoes of nurses calls attention to the possibility of shoes acting as mechanical carriers of infectious material. The frequent finding of hemolytic streptococci on eating utensils after their use by scarlet fever patients emphasizes the danger of such objects as carriers of infectious material when proper sterilization after use is not carried out. Cumming [3] has shown that in army camps the incidence of sputum-borne diseases (measles, influenza, pneumonia) was in the ratio of 1:6.2 in two groups of soldiers. In the first group, consisting of 3,115 men, the dishes used were sterilized by boiling, while in the second group of 2,865 men the dishes were washed in warm water. He [4] has shown that in civil life influenza occurred in the ratio of 1:26.6 among the employees of restaurants where dishes were washed by machine and sterilized by steam, and where they were washed by hand in warm water only; and in the ratio of 1:6.4 among the employees of department stores under precisely the same conditions. Furthermore, he [5] cultivated hemolytic streptococci from the wash water of dishes used by sick patients in 84 per cent., pneumococci in 63 per cent., *Streptococcus viridans* in 65 per cent., and diphtheria bacilli in 1.9 per cent. Saelhof and Heinekamp [6] cultivated pathogenic organisms frequently from dishes at various restaurants. Brown, Petroff and Pesquera [7] have also shown that in tuberculosis there is danger of transmission of tubercle bacilli by kissing, and by transference of bacilli through unclean eating utensils.

3. Cumming, J. G.: Military Surgeon, February, 1920, pp. 150-164.

CONCLUSIONS

The pathogenic bacteria present in the secretions of diphtheria and scarlet fever may be cultivated from the surroundings of the patients, but in the former disease less often than in the latter. Improperly sterilized eating utensils may readily serve as carriers of infectious material.

The thorough washing of the hands with soap and warm running water efficiently removes the secretions with which the hands may become contaminated. To facilitate this, the skin of the hands and nails requires special care in order to insure a smooth healthy surface and freedom from any local condition which may render thorough cleaning difficult or impossible.

Gauze masks protect the faces of the nurses from gross contamination with particles of air-borne secretions.

Cultures from the hands of attendants are a useful check on the individual technic of those caring for contagious diseases.

Cultural studies of the surroundings of patients with contagious diseases may serve to indicate the efficiency of the technic employed, and if applied at intervals they seem to stimulate attendants to greater efforts toward perfection.

CONGENITAL ATRESIA OF THE ESOPHAGUS

REPORT OF TWO CASES

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The rarity of congenital atresia of the esophagus and its interesting developmental variations prompts this report.

REPORT OF CASES

CASE 1.—Hazel D., admitted to Bellevue Hospital from the School of Midwives, with congenital pyloric stenosis, had vomited everything since birth and passed only meconium by bowel. There had been continual vomiting by mouthfuls of nonacid, frothy mucus. Food was taken with great eagerness but promptly vomited. The roentgen examination was entirely fluoroscopic. A soft catheter, passed under the fluoroscope, did not pass beyond a point above the level of the

4. Cumming, J. G.: Am. J. Pub. Health, January, 1919, pp. 25-38
5. Cumming, J. G.: Military Surgeon, April, 1920, pp. 391-402.
6. Saelhof, C. C., and Heinekamp, W. J. R.: Am. J. Pub. Health, 1920, **10**, pp. 704-707.
7. Brown, Petroff and Pesquera: Thirty-Fifth Annual Medical Report of the Traudeau Sanatorium, 1919.

arch of the aorta. The opaque mixture administered revealed a blind sac at this point, the esophagus being slightly dilated. Prompt regurgitation took place. There was no outlining of the bronchi. Gastrostomy was performed, but the infant died four hours after operation, Oct. 2, 1920.

At necropsy, congenital atresia of the esophagus was found. There was hemorrhage into the peritoneal cavity (postoperative).

Uric acid infarction had occurred in the kidneys.

At the bases of the lungs there was slight atelectasis. The length of the child was 50 cm.; weight 6 pounds.

The alimentary canal from the cardiac end of the stomach to the anus was patent throughout. The esophagus was patent to the level of the fourth dorsal vertebra, where it ended blindly in a dilated pouch. From there it was continued as a fibrous band to within about 1 inch of the stomach, where it again became a patent tube. A probe passed up from the stomach into the esophagus ended in a blind pouch about 1 inch from the stomach.

CASE 2.—B., a boy, born in Bellevue Hospital, Maternity Service, Oct. 23, 1920, was transferred to the surgical ward, dying, October 26. The mother was a primipara, aged 27. The delivery was normal; the position, left occipito-anterior. The weight at birth was 2,225 gm. The child vomited everything, but passed meconium only by bowel, during its three

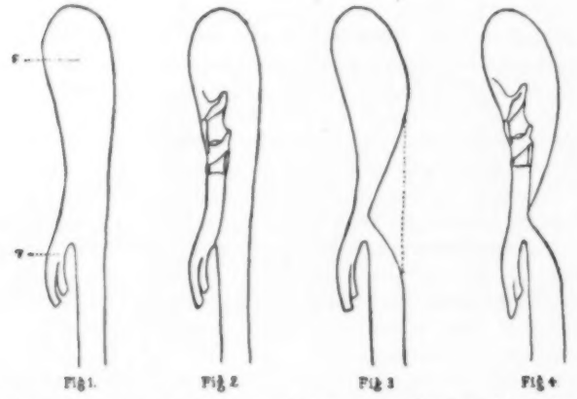

Fig. 1.—*T*, origin of the lung and lower part of the trachea from the anterior wall of the mesenteron; *F*, anterior blind end of the mesenteron.
Fig. 2.—Same parts after the formation of the larynx and upper part of the trachea, from the anterior wall of the mesenteron.
Fig. 3.—Kinking of posterior wall of mesenteron, assumed to take place in the production of congenital atresia of the esophagus.
Fig. 4.—Same parts after the completion of the upper part of the treachea and larynx, showing the resulting atresia of the esophagus and communication of its lower segment with the lowest part of the trachea (Shattock).

days of life. There was no palpable mass in the abdomen. There were no asphyxial attacks. A catheter could be passed into the esophagus only for a distance of about 4 inches from the gum margin. The roentgen examination disclosed the presence of dilatation of the esophagus at a point just above the aortic arch. The dilatation was moderate. Immediately after the sac reached its full distention, the bronchial tree became outlined. There was severe coughing followed by the expulsion of some of the bolus. Both the trachea, larger and smaller bronchi were thus clearly outlined through a fistula by which the esophagus communicated with the trachea near the bifurcation. The point of location of the actual fistula could be demonstrated roentgenographically. Gastrostomy was performed, but the child died next day. There was in this case also marked deformity of the right forearm, the hand being markedly abducted at the wrist and the forearm curved. The roentgenogram revealed a curved ulna, and total absence of the lower third of the shaft of the radius. No necropsy was held. The diagnosis was atresia of the esophagus; esophagotracheal fistula.

REVIEW OF LITERATURE

The analysis of the literature of this subject indicates that though the cases vary in minor details, in general the picture is uniform. The upper portion of the esophagus ends in a culdesac at varying distances below the larynx and above the tracheal bifurcation. In seventy-two of the 136 cases, where the length of the upper culdesac below the larynx was noted, it was from 1 to 1.9 cm. in five cases; from 2 to 2.9 cm. in fourteen cases; from 3 to 3.9 cm. in twenty-four cases; from 4 to 4.9 cm. in twenty cases, and 5 cm. and over in nine cases.

The pouch was usually but not always dilated. Its walls usually hypertrophied, evidently the result of the ineffectual attempts of the fetus to swallow amniotic fluid.

In ninety-six out of the 136 cases, an esophagotracheal fistula was noted, opening into the respiratory tube thus: bronchus, two cases; trachea at bifurcation, thirty-three cases; between the bifurcation and a point 0.5 cm. above, thirty-three cases; from 0.6 to 1 cm. above the bifurcation, 12 cases, and from 1.1 to 2 cm. above the bifurcation, eighteen cases.

The two portions may or may not be connected by a thin strand of tissue. This was noted in fifty-one, absent in forty-one, and not mentioned in forty-four cases. In twenty-six of the fifty-one cases this connecting strand was composed of muscle fibers; in thirteen, fibrous tissue, and in nine, "strands of tissues." This connecting strand was not demonstrated in the present case.

The sex was stated in thirty-seven cases, eighteen boys and nineteen girls.

The period of survival noted in 120 cases was: Stillborn, 5; died first day, 15; second day, 18; third 13; fourth, 14; fifth, 12; seventh, 7; eighth, 6; ninth, 4; tenth, 3: eleventh, 4; twelfth, 1; thirteenth, 1, and fourteenth, 1.

The tracheal opening varied in size. The edges of the opening were always smooth, and the mucous membrane of the two tubes was uninterrupted. The muscle walls of the two passages frequently blended without any line of demarcation. Occasionally rudimentary tracheal cartilages were found in the tracheal portion of the esophagus.

Other anomalies were frequent, being present in fifty-nine out of ninety-four cases. The most common was atresia ani, noted in twenty-four cases.

The earliest case, cited by Thomas [1] was observed by Thomas Gibson in 1696.

ETIOLOGY

It is now generally conceded that the anomaly is due to a developmental error rather than to intra-uterine inflammatory process, as at one time supposed. It must arise at a very early stage, because in a 4 mm.-long embryo the trachea is quite separate from the esophagus. In the Harvard embryologic collection there is an embryo 18.1 cm. long showing this abnormality.

Keibel and Mall [2] state that to produce the common form of this anomaly, the lower portion of the tracheoesophageal septum must fail to develop, leaving the esophagus in communication with the lower part of the trachea but, says Zeit [3]: "Arrested development of the lateral ridges, which unite incompletely in the midline, as the lateral tracheal and dorsal esophageal tubes

1. Thomas, W.: The Anatomie of Human Bodies Epitomized, London, 1703, Ed. 6, pp. 240-242.
2. Keibel and Mall: Human Embryology, Philadelphia **2**: 312, 1912, quoted from Plass.
3. Zeit, F. R.: Congenital Atresia of Esophagus with Tracheo-Esophageal Fistula, J. M. Res. **22**: 45, 1912-1913, quoted from Plass.

are forming, would explain the fistula, but not the atresia. In order that both atresia and fistula be caused by one factor, a faulty 'anlage' with resultant malformation must have existed."

Shattock [4] believes that at the time when the pouch from which the lower air passages develop is formed from the anterior wall of the mesenteron, the posterior wall occasionally participates in the process sufficiently to be drawn forward, thus narrowing the lumen. When, subsequently, the lateral pouching for the formation of the larynx develops from the stomodeum just above this region, so much of the already narrowed lumen is consumed that the connection between the upper and lower portions is left communicating with the air passages.

Jordan [5] makes an interesting embryologic note when he says that in a series of loggerhead turtle embryos, the esophagus was observed to be solid for a greater or less extent, approximately from the point of origin of the respiratory anlage to its bifurcation in the bronchi, from the twelfth to the thirty-second day of incubation; probably esophageal atresia persists practically to near the end of the incubation period (eight weeks) at a level just behind the opening of the larynx.

Fig. 5.—Atresia of esophagus with the formation of a pouch. The lower end of the sac is about opposite the third dorsal vertebra. Below the shadow of the sac may be seen the shadow of the trachea to its bifurcation and the main and smaller bronchi of the right lung.

This is significant because of the relatively longer persistence (normally) of the occlusion than has been described for any other form, and because of the close relation of the atresia to the point of origin of the respiratory anlage.

The epithelial obliteration of the esophagus has been described by Kreuter [6] in the human embryo. Lewis [7] describes esophagi pervious in four embryos measuring from 8.4 to 18 mm., and regards atresia of the esophagus in the human embryo as abnormal at all stages.

SUMMARY

1. Up to July 1, 1920, 146 verified cases of atresia of the esophagus have been reported in infants.

2. The commonest type is a blind upper sac, a lower sac opening into the trachea above the bifurcation; 103 out of 146 are of this type, that is, 70 per cent.

3. Accompanying abnormalities of other parts of the body are common.

4. The most favored embryologic explanation is failure of closure of the tracheo-esophageal septum.

The three most extensive recent studies in English of the literature of atresia of the esophagus are, chronologically: Griffith and Lavenson,[8] 1909; Cautley [9] of London, 1917, and Plass,[10] from Johns Hopkins, 1919.

The most comprehensive of these is Plass', who reports 136 cases verified by himself, thirteen unverified; who provides eighteen pages of bibliography, citing 204 articles and who covers the period from 1703, the first reported case, to 1916.

11 East Sixty-Eighth Street.

AN UNUSUAL PAIN SYNDROME ASSOCIATED WITH THE PRESENT WAVE OF INFLUENZA.

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NEW YORK

In the month of March, 1921, I observed a group of patients presenting, as a characteristic symptom, an unusual localization of pain in association with other evidences of influenza. The clinical symptoms are about as follows: The patient suffers with a mild head cold for a few days or even longer, when he is suddenly taken with a severe pain on the right side, usually, on a level with the insertion of the diaphragm; the paroxysms, in many cases, last about one-half hour, returning at intervals of two or three hours throughout the day. In others, the pain is continuous from the start. In many instances, within thirty-six hours, the pain shifts to the left side at the same level, but is less severe; sometimes it entirely disappears from the first side affected. In others, the pain alternates after the second or third day and the attacks become less frequent and less severe, disappearing entirely within a week. In some instances, the pain level is as high as distribution of the sixth dorsal nerve; in others, it corresponds with the distribution of the ninth dorsal nerve. Tenderness over this area is present in a small proportion of cases; disturbance of epicritic sensation is never noted.

In most of the patients, Muzzy's button (a point of tenderness at the junction of the line of the tenth costal cartilage with the parasternal line) is exquisitely tender on one side or other. None of the phrenic zones in the neck or upper chest are noted as being tender.

It is common to hear the complaint that the patient does not wish to take a breath; not that the pain is so exquisite, but that it requires such a great effort. Some describe it as a burning pain; others, that it feels as though the liver were bursting. A fair proportion of the pateints complain of a pain in the midlumbar region, after the first three days. This resembles the common backache so frequently noted after any head cold. Three patients complained of a colicky pain in the region of the liver. After the first thirty-six hours the pain is not intense and, for that reason, few of the cases reach the general hospital. In some instances, the paroxysms are associated with nausea; the nausea

4. Shattock, S. G.: Congenital Atresia of Esophagus, Tr. Path. Soc. London **41**: 87, 1890, quoted from Plass.
5. Jordan, H. E.: A Case of Normal Embryonic Atresia of the Esophagus, Proc. Nat. Acad. Sc. **3**: 264-267, 1917.
6. Kreuter, E.: Ztschr. f. Chir. **79**: 1-89, 1905, quoted from Jordan.
7. Lewis, F. T., in Keibel and Mall: Human Embryology, pp. 355-368, quoted from Jordan.
8. Griffith, J. P. C., and Lavenson, R.: Congenital Malformations of the Esophagus with Report of Case, Arch. Pediat., March, 1919.
9. Cautley, E.: Malformations of the Esophagus, Brit. J. Child. Dis. **14**: 1-10 (Jan.-March) 1917.
10. Plass, E. D.: Congenital Atresia of Esophagus with Tracheo-Esophageal Fistula, Associated with Fused Kidneys, Johns Hopkins Hosp. Rep. **18**: 259-286, 1919.

is independent of the taking of food and is made worse by the movement in bed; in others, flatulence is a marked symptom. A few patients complain of a dull headache, extending along the base of the brain from forehead to occiput. The temperature varies from 99 to 101, pulse 80, and the blood count from 8,000 to 10,000 white cells, with an average of 72 polymorphonuclears. The general appearance of the patient does not suggest that he is seriously ill, yet the sharp localization of the pain is strongly suggestive.

The importance of recognizing this group is evident, because of its simulating other serious diseases. The absence of marked clinical evidences of influenza of the respiratory type serves to divert one's attention from such a possibility when the symptoms point to a definite location, as it does in these cases. In two instances, good observers made a diagnosis of cholecystitis and, oddly enough, in five of the cases observed by us there were old, real abdominal or chest pathologic conditions: (1) cholecystitis; (2) uterine fibroid; (3) old appendix adhesions; (4) presence of an extensive bronchitis, and (5) chronic endocarditis. Change of the location of the pain, on the second day, to the opposite side, usually makes it easy to rule out the diagnosis of cholecystitis, which was usually the first impression that the case made on one's mind. It was not so easy to rule out a diaphragmatic pleurisy, except that the attack passed off too quickly for the latter disease. However, it might very well be argued that influenza is so protean in its manifestations that there is no use in trying to group any symptom complex. The grouping here reported is so distinct and so frequent as to establish a clinical entity.

In 1899, I [1] reported a series of cases under title of "An Epidemic of Intercostal Neuritis (?)" with an interrogation. The symptoms in these cases were almost identical with those in the present series, except that herpes on the face or trunk was very frequent in the former epidemic. A similar epidemic was reported the same year in the *Deutsche medizinische Wochenschrift*. Since then, I have never seen a similar group of cases. That the syndrome is not due to a true intercostal neuritis is quite evident, yet the distribution of the pain at the time suggested it. These cases are, definitely not true intercostal neuralgia; and the fact that the pain is not confined in every instance to the diaphragmatic region suffices to rule out a diagnosis of diaphragmatitis.

Whether the original pathologic condition is in the posterior root ganglion of the cord at this level or is due to changes in the gray nuclei at the base of the brain will have to await pathologic material. The close resemblance that the pain distribution and other symptoms of some of these cases bear to the so-called spinal type of influenzal encephalitis makes it strongly suggestive that the pathologic condition is cerebral, involving the gray nuclei at the base. The evanescence of the symptoms is explained by the presence of an exudate between the nerve bundles that is quickly exuded and as quickly absorbed, as has been suggested by Boyd. In no case was there twitching present, but tremors in other parts of the body were not uncommon. The connection with influenza is based on the facts that, in almost half of the cases, there were undoubted instances of influenza in the patient's household, or he had been recently exposed to that disease; there had invariably been a preceding head cold; there was evidence of influenza in the mouth, and the duration of the attack was four days, or a multiple of four. Of course, in the absence of any certainty of etiology of influenza itself it is not possible to make out more than an inferential connection. So far as I am aware, this syndrome has not been described heretofore in the present epidemic of influenza.

The pain was relieved, temporarily, by strapping and by hot applications. A combination of 10 grains each of acetphenetidin and acetylsalicylic acid, given every three hours, usually, controlled the pain. In a few instances, a hypodermic of morphin was necessary.

34 West Eighty-Eighth Street.

1. Reilly, T. F.: Tr. New York State M. A., 1899.

Clinical Notes, Suggestions, and New Instruments

A CASE OF ORIENTAL SORE (OF ITALIAN ORIGIN) ENCOUNTERED IN THE UNITED STATES

ROBERT D. SPENCER, M.D., ASHLAND, PA.
Pathologist, Ashland State Hospital

This case of cutaneous leishmaniasis was encountered in a patient admitted to the Pennsylvania State Hospital at Ashland, Pa., Oct. 15, 1920. It is reported because of the rarity of such cases in this country. The subject was an Italian, aged 18, a recent immigrant into this country, who applied for admission to the hospital for treatment of a large sore on

Fig. 1.—Patient with sore on right cheek.

his right cheek (Fig. 1) and two smaller but similar lesions on his left wrist. The sore on the face started as a small papule five months previously while he was employed as a farm laborer near Isea, Italy. The lesion at this time was soft, without discharge on being squeezed, and was not painful, but itched. The larger sore on the wrist began in a similar manner four months before admission to the hospital, and the smaller one on the wrist three months before admission, appearing about one week prior to his sailing from Naples for America. The patient states that with the appearance of the first of these lesions he frequently had chilly sensations and began to perspire greatly on little exercise. Aside from these lesions there is little of medical interest in his history. Physical examination of the chest was negative, save the signs of a mild bronchitis, the remains of a more

active cold of about a month earlier. Examination of the abdomen and genitals was negative. The urinary examination was negative. No blood parasites were discovered. The red blood cells numbered 4,710,000 per cubic millimeter; hemoglobin was 80 per cent.; white blood cells, 10,800; differential blood count: polymorphonuclear neutrophils, 49 per cent.; lymphocytes, 32 per cent.; large mononuclears, 6 per cent.; transitionals, 2 per cent.; eosinophils, 10 per cent.; basophils,

Fig. 2.—Epithelial pearls.

1 per cent. The blood Wassermann reaction was negative. The von Pirquet skin test for tuberculosis was negative; sputum examination was negative for tuberculosis and for protozoa.

The sore on the face was 3 cm. in diameter; its margin was brownish red, slightly wavy and elevated, merging and fading into the surrounding normal skin, indurated and not painful on pressure. The base of the sore was covered by a brown crust, from the edges of which a clear, colorless serum oozed visibly. The lesion gave out a peculiar odor, probably arising from the crust. When the crust was removed, the base of the ulcer presented a raw, red, granular bleeding surface. The small granulations could easily be picked off the ulcerating surface with forceps. Numerous small whitish bodies existed which proved on examination to be small sebaceous cysts. The faint marks of two incisions at right angles with each other could be seen traversing the sore, the result of incisions made by a surgeon with the idea of opening into a suspected but nonexisting abscess. Smear preparations made by spreading the moist granulations taken from the base of the lesion, and stained by Wright's blood method, showed numerous typical leishmanias both free and ingested within larger mononuclear cells of "endothelial type." The parasitic bodies were of rounded or ovoid to pyriform shape, and in many the usual binucleation could be readily observed. They varied in size from 1 to 2 micromillimeters in diameter, and from 1.3 to 4 micromillimeters in length, and in the more heavily infected cells one could count fifty-one of the parasites. Smears made from the two sores on the wrist showed the same bodies.

While I was unable from morphologic appearances to distinguish these leishmanias from *Leishmania americana* or *braziliensis* of the Isthmus of South American types of the lesion, I naturally preferred to disregard the latter because of the European origin of the case, especially since it is by no means fully accepted that these American forms are true species, and not merely varieties of *Leishmania tropica* Wright 1903, the accepted cause of Oriental sore of Asia and the Mediterranean basin.

I attempted culture of the protozoa in Nicolle Novy MacNeal medium[1] and citrated blood agar at room temperature, but without success, although both *Leishmania tropica* and the American leishmanias have been successfully grown into flagellates in the former medium at low temperature. A rabbit, a guinea-pig and a snake (*Eutaenia sirtalis*) were inoculated subcutaneously without result. *Leishmania tropica* has been transmitted by inoculation from man to man, to monkeys, and to dogs.

Inquiry as to a possible insect transmitter in the present case elicited the fact that the patient had been annoyed by fleas of unknown species before the appearance of the first sore; no evidence of other insects being a possible factor could be obtained. He had never seen any other person similarly affected.

The histopathology of the border and base of the sore corresponds well with the descriptions of Oriental sore. The margin of the ulcer shows numerous tongue-like extensions of the interpapillary epidermal cells into the corium, occasionally with "pearl body" formation. The intervening tissue of the corium is loose from edema and fairly thickly infiltrated by lymphocytes, plasma cells and numerous large "endothelial cells." Special collections are notable about blood vessels, and occasional giant cells occur in the general infiltration, which extends well down into the subcutaneous tissue. In the loose tissue, in the lymph spaces free leishmanias occur, but in the sections it was difficult to detect them in intracellular position.

All these sores were healed with such promptness that I was soon without material for desirable further cultural and inoculation study. Each lesion was frozen with carbon dioxid for one minute, with firm pressure. After the first application, no more leishmanias were detected in smears.

It required only three such treatments at ten day intervals to cure the ulcers on the wrist. The larger facial sore was healed after nine applications, with ten days intervening between the freezings. This lesion also received one roentgen-ray treatment, with a 9 inch spark gap, 5 ma., 5 mm. aluminum, five minutes, at a distance of 11 inches.

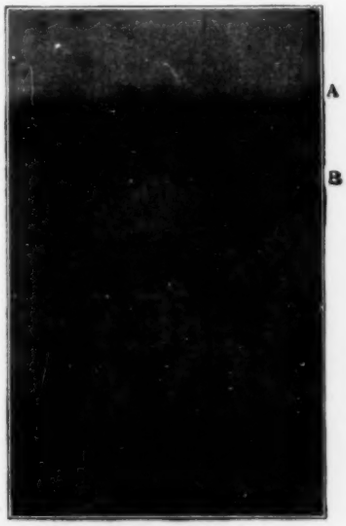

Fig. 3.—*A*, surface; *B*, tonguelike extensions of epidermal cells into the corium.

1. This medium is made by extracting 125 gm. of chopped beef with 1,000 c.c. of water, the mixture being placed in the refrigerator for the night, and strained the next morning. To the liquid extract are added 20 gm. of peptone, 5 gm. of salt, 10 c.c. of normal sodium carbonate solution and 20 gm. of agar. To one part of this nutrient agar (which represents one fourth of the strength of the usual meat infusion), when melted and cooled to 60 C., is added twice its volume of defibrinated rabbit's blood.

General Census Should Include Hospitals.—Uncle Sam should add "a hospital census" to his other statistical responsibilities, if only hospital interests and others concerned will take steps to impress the urgency of the need. The trouble has been, however, that the need of a federal inventory of our hospitals has not been so acutely sensed by the public at large nor the Bureau of the Census. Consequently, we have the spectacle of Uncle Sam publishing, just now, a list of the hospitals in Latin America, but making no effort to secure correspondingly complete enumeration of similar institutions in the United States.—W. Fawcett, *Hospital Management* **9**:49 (Jan.) 1920.

CARCINOMA OF THE BLADDER

REPORT OF A CASE IN WHICH A CYSTOGRAM AIDED IN THE DIAGNOSIS AND PROGNOSIS

W. M. COPPRIDGE, M.D., WEST DURHAM, N. C.

This case is reported with the idea of substantiating the conclusions of Dr. David R. Melen[1] in his recent article in THE JOURNAL. I believe it will add one factor of usefulness in the study of bladder tumors not brought out by Dr. Melen's case, that is, that the method may be of value when it is uncertain whether or not invasion has taken place in the surrounding structures.

Bladder filled to capacity with sodium bromid solution, 15 per cent., showing great irregularity of outline to the right.

REPORT OF CASE

History.—Mrs. M. M. T., aged 60, white, widow of five years, referred by Dr. Merle T. Adkins, Nov. 30, 1919, complained chiefly of frequency and pain on urination over a period of one year. Her father died at the age of 82 of "old age"; the mother died at 73, of unknown cause. There was one child, aged 26 years; there had been no other pregnancy. During the last three months she passed a little blood on two occasions. The urine had been very cloudy and had shown a heavy sediment for the last nine months.

When I first saw her the urine was cloudy; leukocytes, +++; erythrocytes, +. Blood examinations revealed: leukocytes, 19,600; polymorphonuclears, 58 per cent.; endothelial leukocytes, 8 per cent.; lymphocytes, 20 per cent.; large mononuclears, 10 per cent.; eosinophils, 3 per cent.; basophils, 1 per cent.; hemoglobin, 80 per cent.; erythrocytes, 4,200,000; Wassermann test, negative.

Physical Examination.—The patient did not look emaciated. The heart and lungs were negative; the abdomen was symmetrical; the liver, spleen and kidneys were not palpable; vaginal examination at this time was negative.

Cystoscopy, November 30, with a Brown-Buerger cystoscope, disclosed the capacity of the bladder as only about 3 or 4 ounces. There was a marked cystitis and some ulcerations on the right side. Both ureters were catheterized, and the urine from each was clear. Phenolsulphonephthalein given intravenously appeared from each side in three minutes, and the output seemed to be equal on each side. The small capacity of the bladder made an examination of the ulcerations to the right unsatisfactory.

A diagnosis was made of severe cystitis, with the probability of malignant ulcerations on the right side of the bladder.

Further observation was advised, but following this the patient left the hospital for a time and refused further observation.

In November, 1920, she returned. The urinary findings were the same as before. On vaginal examination a small mass was felt to the right. Cystoscopy at this time revealed many papillary growths, and a diagnosis of carcinoma was made. Because of the small capacity of the bladder and the extreme irregularity in filling, a cystogram was made in order to trace the outline more accurately. The accompanying illustration shows prolongation to the right, with a great deal of irregularity in outline. It was felt, therefore, that the plate bespoke invasion. Exploratory laparotomy revealed extensive invasion of the intestine on the right side.

It is believed that this method of studying bladder tumors is of great aid in many cases of suspected carcinoma, when a definite diagnosis is difficult. It is also useful in determining whether or not invasion of the surrounding organs has taken place.

Watts Hospital.

1. Melen, D. R.: Aid in Diagnosis of Tumor of Urinary Bladder, J. A. M. A. **76**:782 (March 19) 1921.

A CASE OF BILATERAL DISLOCATION OF THE HIP JOINT*

WALTER G. STERN, M.D., CLEVELAND

A well developed, muscular woman, aged 22, was injured in an automobile wreck on the evening of Dec. 31, 1920, while a passenger in the front seat of a heavy touring car, the front seat of which was movable and adjustable. The machine skidded on a wet and slippery asphalt pavement while being driven at a speed said to have been in excess of 50 miles an hour. When the driver found his machine was out of control, he left his seat back of the steering wheel and, drawing his fur coat around them in such a manner as to protect the young woman from flying glass, he threw himself on her lap. The wheels of the machine struck a neighboring curb, the body was smashed, and the two passengers of the front seat, still seated on the front seat, which became detached from the car, were whirled by centrifugal force over the wet pavement as though on a sled, and struck the opposite curb at a distance estimated as 60 feet from the point where the automobile itself had struck. They said that they knew that they were tobogganing across the pavement at a terrific speed. The feet of the young woman met the curb squarely with the soles and heels of the shoes; she felt severe pains in the small of the back, and immediately lost control of the right knee and foot.

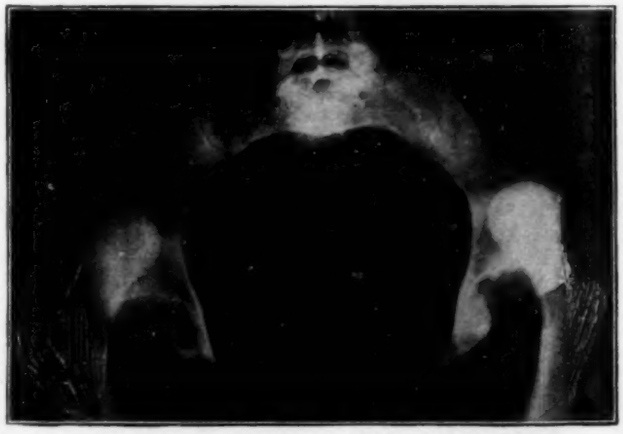

Fig. 1.—Bilateral dislocation of the hips before reduction.

She was taken to a nearby hospital, where it was found that she had injured her right foot and that she had a total peroneal palsy of the right leg with toe drop and anesthesia of the toes. She complained bitterly of pain in the calf and toes, although the skin was insensitive to pin pricks, especially in the dorsum of the foot and the toes. Her complaints of pain in the foot and leg were so constant and agonizing that the condition of the hips was entirely overlooked. A fracture of the spine with cord involvement was suspected; but the roentgenograms were negative, as was a lumbar puncture, which was done with the expectation of recovering bloody fluid.

* From the Orthopedic Department of the Mount Sinai Hospital.

The patient was a very hard one to handle, and it was with great relief to the hospital authorities that she concluded to go home a few weeks thereafter. She called numerous physicians to her home, but it seems that none of them stayed long enough on the case to make a positive diagnosis. Dr. Emory Dial of Cleveland was the last physician to be called in. He ignored her complaints of pain, pulled down the bedclothes, and forced on the patient a more careful examination than any other of the attending physicians dared to make, but got no further than the right hip. Noticing the abnormality of a flexion, adduction, internal rotation contracture

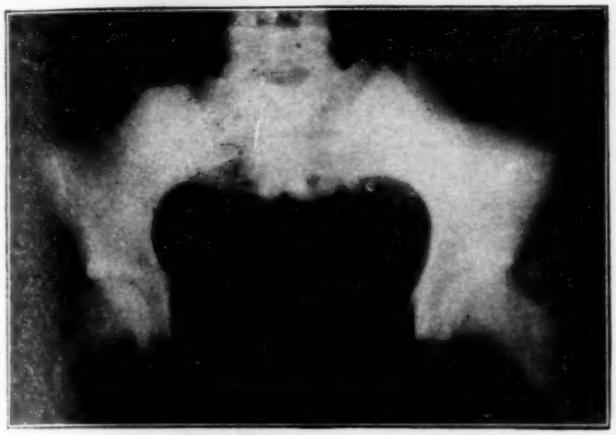

Fig. 2.—Bilateral dislocation of the hips after reduction.

at the right hip, he sent the patient to a second hospital, where a roentgenogram of the right hip revealed a posterior and upward dislocation of the head of the femur.

Seven weeks having now elapsed since the date of the injury, the doctor sent the patient to me post-haste for an attempt at reduction. As a result of the girl's screams and complaints while in the ambulance, the patient arrived at Mount Sinai Hospital at the very end of an operative clinic. Owing to the fact that four days would have had to elapse before an attempt could be made at reduction had not the attempt been made that morning, without any preliminary examination, the girl was placed on a Hibb's table and anesthetized. Here it was discovered that the left hip stood in a similar position of flexion, adduction and internal rotation contracture. On questioning the mother and the attending physician, it was learned that she had never made any complaint about pain or disability in the left hip. The second might have been one of congenital dislocation of the hip, and a roentgenogram of both hips was immediately taken stereoscopically with a Bucky diaphragm. The plate showed that the head and neck of the femurs were normal in size and were well formed. Both acetabula were deep, clear and evidently had been occupied by the heads of the femurs, and there were small fragments chipped off the posterior rims of the acetabula. A few days later, seven and one-half weeks after the reception of the injury, the patient was deeply anesthetized with gas-oxygen-ether sequence, the pelvis firmly bound on a Hibb's table, and with a wedge under the trochanter, the hips were both reduced with a typical Lorenz maneuver. The reduction was not more difficult than in an ordinary case of congenital dislocation of the hip in a child of 4 or 5 years, and after the reduction was accomplished the heads had the tendency to remain in the acetabula. A plaster cast was put on the right foot, with marked overcorrection of the drop foot deformity. A pillow was placed between the knees, and the knees bound together with flannel bandages.

One week later the pillow was removed, and massage and circumduction of the hips begun.

COMMENT

On looking up the literature, one is struck by the few cases of traumatic dislocation of both hips that are on record. Lewis[1] reported one case of his own and reviewed thirty cases from the previous literature. In several of the reported cases the patient died from shock after reduction. In all, twenty-three cases were successfully reduced.

The mechanism of the dislocation seems to be the application of sufficient force from above or from below (as in my case) when the thighs are held fixed in flexion.

In all, forty cases of this most unusual injury can now be recorded.[2]

821 Schofield Building.

DEMONSTRATION OF CAPSULE-LIKE APPEARANCE IN STAINING GONOCOCCI *

CLARA ISRAELI, M.D., CONCORD, N. H.
Pathologist in Chief, State Laboratory of Hygiene

It has been a question whether or not the gonococcus possesses a capsule. Some hold that it does possess a capsule, some question its presence, and some flatly deny that this organism has a capsule. The microbiologies consulted by me, both English and American, say nothing about this organism having a capsule, yet the clear zone around the gonococcus which is seen in the examination of slides could hardly fail to impress itself on the mind's eye of the examiner. This clear zone is demonstrated both by Gram's method of staining and by Loeffler's alkaline methylene blue, the latter stain being preferred by a good many because the zone is more clearly defined. It is that clear zone or spacing around this coccus that identifies it as the gonococcus. It is used as a means of differentiation between these cocci and other gram-negative diplococci of similar shape.

The question arises as to what is this clear zone or spacing. The most probable solution is that this clear zone must be a

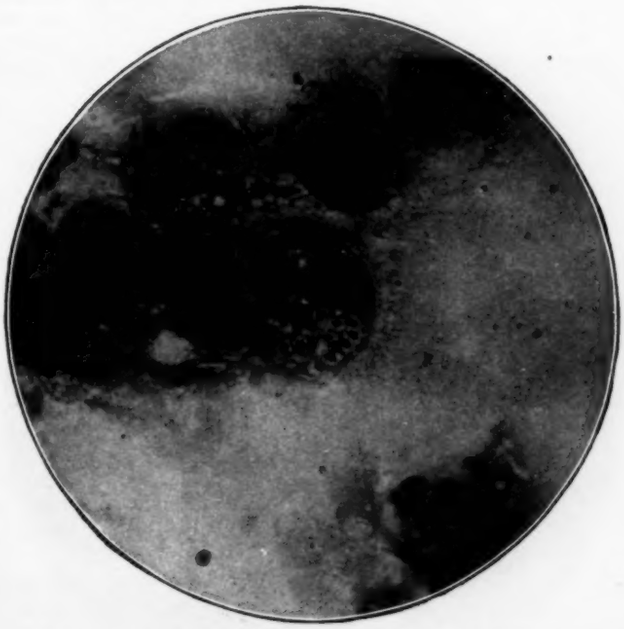

Fig. 1.—Gonococci with light zone characteristic of results with new stain.

capsule belonging to this organism, which finally led me to stain for capsule. I used the several known capsule stains and selected the one best adopted for this purpose, which is

1. Lewis: Ann. Surg. **40**: 735, 1904.
2. Since the publication of Lewis' article, the following publications have appeared:
Eunike: Deutsch. med. Wchnschr. **40**, 1918, two cases.
Jarosiky: Deutsch. med. Wchnschr. **42**: 479, 1919, one case.
Magruder: Virginia M. Semimonth. **21**: 317, 1916, one case.
Aleksandraff: Russk. Vrach **11**: 386, 1912, one case.
Chace: New York M. J. **95**: 171, 1912, one case.
Hoffman: West Virginia M. J. **3**: 266, 1908-1909, one case.
Von Bardeleben: Ztschr. f. Geburtsh. u. Gynäk. **58**: 516, 1907, one case.

* From the State Laboratory of Hygiene.

Hiss' capsule stain, slightly modified, using a 5 per cent. aqueous solution of methyl violet or 5 per cent. aqueous solution of fuchsin, the latter being preferable. The solution, therefore, necessary for this work is a 5 per cent. aqueous solution of either stain and 20 per cent. solution of copper sulphate. The technic is simple:

1. Smears are fixed by heat.
2. The slide is covered with the dye and heated till it boils.
3. It is washed with 20 per cent. copper sulphate solution till no more of the color runs off.
4. It is dried between filter paper.

MICROSCOPIC APPEARANCE

The pus cells on the field take on the stain richly. The coccus takes on the same stain as does the nucleus of the pus cell. The zone around the gonococcus takes on the stain much lighter in color. If methyl violet stain is used, the surrounding zone is a lavender; if fuchsin is used, the surrounding zone is a pale pink. The space between the coccus and the outer edge of this lighter stained area is as wide, in many cases twice as wide, and in some cases three times as wide, as the coccus. Because of this wide lighter stained area, it makes the coccus appear smaller than we have been accustomed to seeing it with the usual method of staining, which is that of Gram. This is particularly true when the smear is thin; that gives the gonococcus and its capsule wide area to spread. When the smear is thick, the cocci are pushed together and it does not leave room for expansion, so that it gives the coccus the size that we have been accustomed to seeing it because the periphery has a much narrower margin. This is the explanation as to why different fields show the capsule of a different size.

The question might arise that the lighter stained area might belong to the cytoplasm of the pus cell rather than to the gonococcus, since the coccus is in the cytoplasm of the pus cell. That question can be answered by the fact that the gonococci which are in the fields by themselves show that characteristic light zone stain the same as in the pus cell.

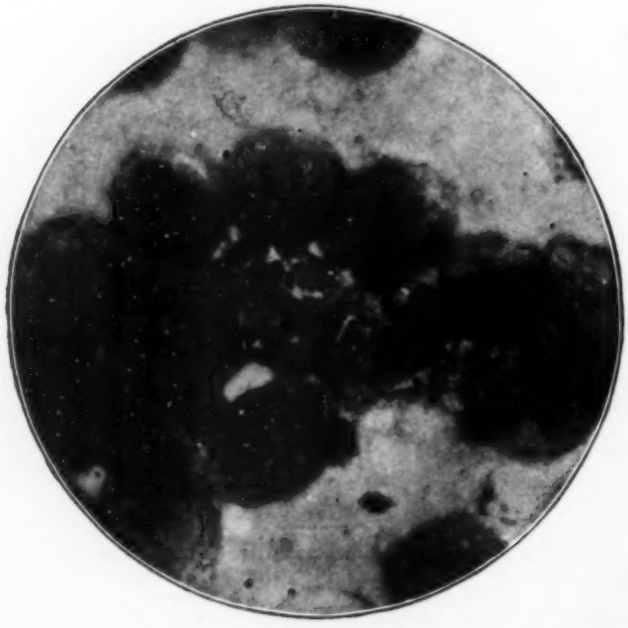

Fig. 2.—Intracellular gonococci.

This is demonstrated in the accompanying photomicrographs, it being more marked in Figure 1.

While this method of staining brings out the capsule-like periphery around the gonococcus distinctly, it is perhaps a little too soon to claim that it is the capsule of the gonococcus until more work has been done on it.

This method of staining has been adopted by the State Laboratory of Hygiene, Concord, N. H., and I might suggest that other laboratories try this method.

CALCULUS IN MAXILLARY SINUS

ROBERT B. SWEET, M.D., LONG BEACH, CALIF.

Mrs. S., aged 40, who complained of pain in the right eye, had had a nasal discharge for ten years. She had had all the upper right teeth extracted ten years before I saw her. I found maxillary sinusitis on the right side. A roentgenogram revealed the right maxillary sinus to be dark. I opened the sinus by way of the nose. It was filled with foul-smelling

Foreign body in maxillary sinus.

pus. I gave treatments by way of the nostril for six weeks, at the end of which time pus was still present. Another roentgenogram, reproduced herewith, disclosed a foreign body in the maxillary sinus which, on being removed by the Caldwell operation, proved to be a cuboid calculus, the size of a small die. The patient made a rapid recovery.

A NEW DIAGNOSTIC SIGN IN ACUTE INFLAMMATORY CONDITIONS OF THE ABDOMEN

MOSES SALZER, M.D., CINCINNATI

The accurate diagnosis of acute inflammatory conditions of the abdomen presents such great difficulties at times that the surgeon is at a loss where to make his incision. It is not uncommon for him to be compelled to handle an acutely inflamed appendix through what was originally a gallbladder incision, and the reverse is also just as frequently true.

Any sign, therefore, which will assist in making an accurate diagnosis before the incision is made will be of inestimable value in any operation, but especially so when the patient's condition is not good and the disease has existed for some time. It is in these late cases that the whole abdomen is most likely to be painful and tender on examination, and any additional information will be welcomed by the surgeon.

The presence of the sign about to be described was first called to my attention about four years ago by the following case:

The late Dr. Joseph Ransohoff was called in consultation by two internists who had made a diagnosis of acute appendicitis, with possible abscess. The whole right side was rigid, painful and tender on palpation. The leukocyte count was high, and the patient's condition was not good. Dr. Ransohoff himself was more inclined to a diagnosis of acute gallbladder infection.

I was called on to give the anesthetic, which was to be nitrous oxid-oxygen; and before the patient was completely anesthetized, Dr. Ransohoff bethought himself to make another examination.

He first made pressure over McBurney's point, and there was no response; but immediately on pressing over the gall-

bladder region there was a *distinct catch in the respiration,* some local resistance, some contraction of the eyelids and other unmistakable evidence that some pain was being produced. The whole abdomen was then gone over, and the examination of no other part elicited any response. The incision was therefore made over the gallbladder region, and a moderately distended, suppurating gallbladder was delivered. The appendix was found to be perfectly normal.

With this case in mind, Dr. Ransohoff and I examined all subsequent acute abdominal cases with the patient partially anesthetized, and in several hundred cases we found it a most reliable sign. It was particularly reliable in this case:

Mrs. W. had complained of pain in the left lower quadrant of the abdomen for some time. Vaginal and rectal examinations were negative. There was a slight elevation of temperature. The leukocyte count was normal at first. The pain in the course of a few days spread over the lower half of the abdomen, and the whole abdomen became rigid. The leukocyte count became markedly increased. No definite diagnosis was made, and exploratory operation was decided on. With the patient partially anesthetized with nitrous oxid-oxygen, Dr. Ransohoff made pressure over the whole abdomen and was able to elicit a response only when pressure was made over McBurney's point. Despite the fact that, previous to the time of operation, the chief pain was on the left side, an appendix incision was made and an acutely inflamed appendix was found. The appendix lay transversely, and a band led over toward the left side, explaining the pain in that side.

SUMMARY

In acute inflammatory conditions of the abdomen, it is possible with the patient partially anesthetized to tell with a fair degree of accuracy the seat of the trouble, and the incision can be made accordingly. The sign consists essentially of a catch in the respiration and other evidences of the presence of pain, depending on the depth of anesthesia, when pressure is made over the diseased area. The catch in the respiration is the most constant part of the sign, and will persist until surgical anesthesia is produced. In most of the cases forming the basis of this paper, the patients were anesthetized with nitrous oxid-oxygen; but the sign also holds good when ether is used.

55 Groton Building.

REPORT OF A CASE OF PEDUNCULATED BODY IN THE KNEE

E. A. FICKLEN, M.D., B.Sc., NEW ORLEANS

J. M., a man, aged 22, was loading a vessel, Dec. 2, 1920, when a heavy bale of sisal grass fell on his right leg and threw him to the deck. Examination a few hours later disclosed a moderate amount of effusion in the knee joint, and marked tenderness over the inner edge of the femoral trochlea. No dislocation of the cartilage could be felt. The knee joint was immobilized and the effusion subsided, but the tenderness persisted. The patient was allowed to walk on crutches, and, after four weeks, with a stick. Five weeks after the injury, he complained of occasional locking of the knee. This locking was easily reduced. He stated that there was something loose in the joint. Full flexion was ordinarily sufficient to free the engagement.

The ordinary conservative methods, such as compression and massage, were tried; but as they gave no relief, he was operated on, Feb. 9, 1921. A bloodless field was assured by placing a heavy constrictor on the thigh. The joint was opened by a 2-inch longitudinal incision at the inner border of the patella. The menisci, the crucial ligaments, and the infrapatellar fat pad were normal. There was a small amount of clear fluid in the joint. After close inspection, the only sign of abnormality found was a faint C-shaped fracture line centrally situated on the convexity of the internal condyle. The contour of the condyle was unbroken. The fragment of bone and cartilage was found lying in a smooth, shallow, cup-shaped depression, with its posterior edge attached to the condyle by a band of fibrocartilaginous tissue 1 mm. thick. This band was clipped through, the body removed, and the incision closed.

Dr. F. M. Johns examined the specimen and reported: "Evidently a fracture; normal cellular bone with the usual dense area on the bearing surface."

The knee was not immobilized after the operation. Passive motion was begun at once. There was a palpable amount of fluid in the joint for three weeks. At the end of a month, crutches were discarded; and two months after operation, the patient was able to resume his work. He has complete relief from all symptoms, and is free from any feeling of instability in the knee.

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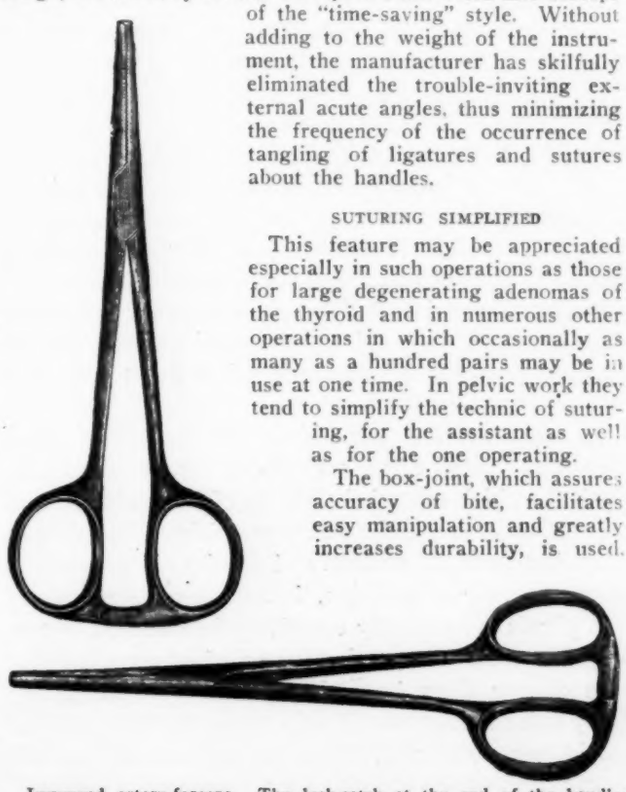

Improved artery-forceps. The lock-catch at the end of the handles and the straight shanks where they are joined to the rings have been so flattened and tapered that the forceps still retain the necessary lightness, besides eliminating the crotches between the rings and the shanks where so frequently ligatures or sutures become lodged, resulting in tangling and some loss of time.

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This feature may be appreciated especially in such operations as those for large degenerating adenomas of the thyroid and in numerous other operations in which occasionally as many as a hundred pairs may be in use at one time. In pelvic work they tend to simplify the technic of suturing, for the assistant as well as for the one operating.

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108 Garden Street.

* Presented before the Philadelphia County Medical Society, March, 9, 1921.

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SATURDAY, MAY 28, 1921

THE ENDOCRINE GLANDS—A CAUTION

The bearded lady, the giant, the fat boy and the midget — those "marvelous freaks of nature" of the dime-museum days—we have learned to regard as the victims of disordered endocrine glands. So profound are the effects which these remarkable organs can produce in the body, upsetting such essential processes as sexual development, growth and metabolism, that the imagination of both laboratory worker and clinician has been greatly stimulated. No wonder that hopes have been stirred that these processes may be placed under control, that old mysteries of disease will be explained, and that hitherto hopeless cases can soon be satisfactorily treated.

Unfortunately, we are still deeply ignorant of many important aspects of endocrinology. The conditions in the body which control the glands of internal secretion are still almost wholly unknown. There is evidence that the suprarenal medulla and the thyroid are subject to sympathetic stimulation, but what of the others? The glands are probably complexly interrelated, but in only few cases has satisfactory proof of mutual influence among them been demonstrated. Though we glibly talk of "hormones," only two endocrine products are known chemically, thyroxin and epinephrin, and there are physiologists who do not concede a hormone function to epinephrin. The nature of the supposed active agents of most of the glands, e. g., the ovary, the corpus luteum, the suprarenal cortex, the anterior pituitary, the parathyroids, the thymus, and the endocrine cells of the pancreas, has not been determined. Nor has it been demonstrated that most of these organs contribute any specific internal secretion. They may, conceivably, exert their influence by removing toxic substances from the blood stream and metabolizing them to inert forms. Epinephrin, the nature of which is understood, is known to disintegrate rapidly in an alkaline medium, and, though highly potent in many directions when injected intravenously or subcutaneously, is without physiologic effect when taken by mouth. Until we learn more about the character of the essential elements of the ductless glands and their precise effects, we cannot be sure that they also are not altered or destroyed in the alimentary canal. And to what degree is substitution therapy possible? Its value has been proved in thyroid deficiency, but it is useless in pancreatic diabetes. Too often organ therapy is justified by the patient's "feeling better," or by the disappearance of subjective symptoms—criteria of very uncertain quality.

The normal rôle of the endocrine factors in the organism is largely unknown. Much of the general opinion is based on faulty inference. Injected epinephrin raises blood pressure. The inferences have been drawn, therefore, that the suprarenal medulla is essential to the maintenance of normal blood pressure, and that hypotension means "hypo-adrenalism," and hypertension "hyperadrenalism." No conclusive evidence exists to support these inferences; indeed, there is excellent evidence that the suprarenal medulla has nothing to do with maintaining the natural blood pressure level. The idea that the posterior lobe of the pituitary is active in labor and in lactation is based on the same fallacy of assuming that the pharmacodynamic action of a powerful drug indicates the physiologic rôle of the organ from which it is derived.

Again, there is no satisfactory clinical test for any assumed internal secretion, as such. Altered metabolism in thyroid disorders permits a certain amount of insight into the type of disturbance present. And, of course, when conditions are extreme, fairly definite inferences can be drawn in such diseases as acromegaly and myxedema. Minor clinical changes, however—headaches, flushes, unstable blood pressure—are commonly attributed to endocrine disorders on no definite evidence whatever, often on the basis of the therapeutic fallacy mentioned above. The facts should be faced that much of endocrine physiology is in a state of chaos, and that selection of bits from this chaos to bolster up clinical theories is sheer futility.

Confronting our real ignorance of many important features of endocrinology are positive statements of facts when the facts have not been established, large assumptions of assurance when there is no clear certainty, and a formulating of laws for diagnosis and treatment when no respectable basis for either exists. Illustrations of these charges can be found on all sides in books and articles and, especially, in widely scattered advertising matter.

Credulity, under these circumstances, has evil consequences. It helps to fix a sense of security, a sense of being satisfactorily informed, when there is little, if any, justification. It hinders medical progress by substituting simple faith and enthusiasm for the careful critical study that is sorely needed. It opens the door for exploitation of the medical profession by charlatans and quacks and unscrupulous manufacturers. Medicine is humiliated rather than served when we swarm with the crowd after the latest therapeutic fad, accepting as gospel every claim that is made, if only it is made with sufficient positiveness.

We appeal, however, not for general condemnation of endocrinology as a subject of interest, but for a proper scientific attitude toward the data that are advanced. Quite as numerous, perhaps, as the group that throngs heedlessly after each new interest is the group that will have none of it, good, bad or indifferent. This is merely throwing out the baby with the bath. Although less vociferous than the impressionistic school, there are groups of clinical and laboratory investigators who are bending their best efforts toward the solution of the numerous and baffling problems that the field presents. The efforts of these men are deserving of the whole-hearted support of their colleagues.

To the well trained clinician, the existing chaos in this field may well stand as a challenge to his constructive attention. Interest in the ductless glands was initiated by clinical study. Addison, Oliver, Parry, Graves, Kocher, Lancereaux, Marie—the names of these clinicians mark the steps of our progress. But these men helped to advance medical knowledge by careful study of their cases, by correlation of similar conditions, by cautious and limited inferences. The clinic still provides disturbances, probably endocrine in origin, that the laboratory cannot duplicate. The opportunity to contribute to professional knowledge in this field is still great. The situation calls not for the gullible enthusiast but for the critical clinical investigator, not for a stampede but for cautious progress. And so far as the well-tried methods of careful observation, careful record, careful test, and careful inference are employed, they may reasonably be expected to yield useful information.

A SCIENTIFIC BACKGROUND FOR THE USE OF ARSENICAL AND MERCURIAL COMPOUNDS IN SYPHILIS

It is a proper postulate of all drug therapy that the precise mode of physiologic action of the agencies employed and their effects on the various structures of the organism must be ascertained as fully as possible before the treatment instituted can be said to rest on a thoroughly rational or scientific basis. When it goes without comment that individual clinicians can report upon literally many, many thousands of injections of arsphenamin, it need scarcely be argued that this represents a type of drugs which demand a thoroughgoing study with respect to every detail of behavior in the body. This assumption derives further support and emphasis from the fact that serious consequences are by no means unknown today in the forms of treatment wherein such drugs are employed.

It has been quite common to ascribe the misfortunes in the management of syphilis to the occasional poor quality of the newer chemical compounds of the arsphenamin type that have been employed in practice. The time has arrived, however, when inherent toxicity of the purchasable drugs or technical errors in their administration are no longer warranted as a routine excuse for the unsatisfactory results of therapy. Are there not factors concerned with the patient which need more careful consideration? One cannot peruse the recent issue of the *Archives of Dermatology and Syphilology*[1] without realizing the possible importance of the answers to this question. Kolmer and Lucke of the University of Pennsylvania have recently completed an elaborate series of studies on the histologic changes produced in the organs of experimental animals by arsphenamin, by neo-arsphenamin and by mercury. They investigated the effects of massive, fatal doses as well as the results following the administration of the drugs in quantities and at intervals more nearly in harmony with current therapeutic practice. Schamberg has summarized the results of his colleagues by the conclusion that the arsphenamins produce demonstrable effects chiefly on the liver, suprarenals and the blood vessels, and mercury chiefly on the kidneys and brain. As paraphrased by the Philadelphia syphilologist, the arsphenamins would appear to have a special affinity for the organs referred to—a hepatotropism, a suprarenotropism and a vasculotropism. Mercury possesses a nephrotropism (an observation long known) and apparently a cerebrotropism.

In the light of these findings it becomes easier to understand the long-known appearance of jaundice in syphilis, a symptom which on careful scrutiny of the case histories seems to be a possible sequel of arsenic treatment. It has been stated, indeed, that jaundice and acute yellow atrophy are incontestably much more common nowadays than before the introduction of the arsphenamins. This would seem clearly to serve as a warning that such arsenical therapy must be conducted with due appreciation of its relation to the liver; and, accordingly, in the best practice of the present day, hepatic complications are becoming a real rarity.

Equally emphatic are the warnings that attach to mercurial treatment. The danger of damage is the more to be feared because mercury is slower and more subtle in producing impairment of the kidneys. In view of the frequency of treatment with both arsenicals and mercurials, it should be borne in mind that within a short time after an injection of arsphenamin most of it disappears from the blood and is lodged in the organs, one of the chief reservoirs being the liver. If the eliminatory activity of the kidneys is impaired, it is obvious that the arsphenamin will remain for a longer time and in larger quantities in the liver, for which organ it has a considerable affinity. Too long a residence in the liver may cause the drug either to become oxidized with the production of arsenoxid, or the arsenical radical may become split off and produce the symptoms of arsenical poisoning.

1. Kolmer, J. A., and Lucke, Baldwin: A Study of the Histologic Changes Produced Experimentally in Rabbits by Arsphenamin, Arch. Dermat. & Syph. 3: 483 (April) 1921; A Study of the Histologic Changes Produced Experimentally in Rabbits by Neo-Arsphenamin, ibid., p. 515; A Study of the Histologic Changes Produced Experimentally in Rabbits by Mercurial Compounds, ibid., p. 531. Schamberg, J. F.: Clinical Commentary on Studies of Histologic Changes in Organs Induced by Arsphenamin, by Neo-Arsphenamin and by Mercury, ibid., p. 571.

Knowing the chief organs—the liver, suprarenals, blood vessels, kidneys and brain—that are likely to suffer, one can exercise circumspection more intelligently. The pathologic findings and clinical experience, says Schamberg, would alike persuade one to utter two cautions: In mercurial treatment, watch the kidneys; in arsphenamin treatment, watch the liver. It cannot be expected that powerful drugs shall be entirely inert toward the cells of certain organs and tissues; hence the limits of safety should be watched with great care. Fatalities, Schamberg reminds us, have occurred after both arsphenamin and mercury. Those after the former are much more tragic and fear inspiring, for the relation between cause and effect is obvious. Many scores, if not hundreds, of deaths after mercury have likewise been reported in the literature, but they are ordinarily more likely to be slow and insidious and less likely to be incriminative of the therapeutic procedure employed. With a knowledge of the warning signals which recent investigations have made more prominent for recognition, unduly vigorous medication can be avoided when the danger is indicated. It will be conducive to progress when the hundreds who may still be treating syphilis somewhat indiscriminately learn that the chemical foes of the spirochetes are not always indifferent toward the tissues of the host of the parasites.

THE PROBLEM OF ENDEMIC GOITER

"No one wonders at goiter among the Alps," Juvenal wrote in ancient days. The occurrence of this abnormality in endemic form has been recognized since the times of the early Roman writers. Although Switzerland has been the classic home of endemic goiter, physicians have long realized that there are many other foci on the European continent. That there are distinct, conspicuous goiter regions on our own continent and within the United States is not as generally understood as it ought to be. The early explorers found goiter among the North American Indians; and today the region of the Great Lakes is probably the best recognized though by no means the only geographic area in which the enlargement of the thyroid gland becomes a manifestation sufficiently frequent to deserve careful scientific consideration.

The recent studies of Marine and his co-workers [1] on the incidence and types of thyroid enlargement in the schoolgirls of Akron, Ohio, have called attention in a most striking way to what goiter really means in this country. Out of hundreds who were examined, more than half showed some detectable enlargements of the gland, although most of them were comparatively slight, showing a visible bulging of the skin over the thyroid isthmus and a widened and thickened isthmian band or mass on palpation. An added importance to these statistics is afforded by the fact that the simple goiter is medically preventable without great difficulties.

Even more startling is the report of Levin [2] relative to the incidence of goiter in Houghton County, an area in the Lake Superior region of Michigan. His figures indicate an incidence of 1,146 goiters in 1,783 unselected persons examined in two townships lying in the Great Lakes goiter belt. These enlarged thyroids included 682 simple goiters, 420 adenomas and cystomas, and 44 colloid goiters. The incidence curve shows that goiters increase in both sexes during puberty, dropping to a small degree after the growth of the individual is attained. The curve remains in the female for the child-bearing period, going down at about 38 or 40 years, when it rises again for the menopause. In the male, the curve gradually drops until 35 or 40 years, when there is a small rise owing to the growths in the glands asserting themselves, the male having no special metabolic change to influence the enlargement. The simple goiters maintain the high percentage until 35 years is attained, and the adenoma and cystoma sustain the height of the incidence curve after that age. The appearance of adenomas at a relatively late age corresponds with the comparative absence of these growths in the schoolgirls of Akron.

One looks in vain for dominant factors of unhygienic living in the places which Levin studied. The water supply is varied, so that a common source of infection is scarcely to be postulated by the adherents of the "infection theory" of goiter. Without debating at this time the cause of the abnormality, we may still give renewed emphasis to the demonstration at Akron that reduction and prevention of thyroid enlargements can be obtained by the use of 2 gm. of sodium iodid taken in 0.2 gm. doses for ten days twice yearly. However harmless the "simple enlargement" may seem to be, one must bear in mind that continued hypertrophy may in the long run lead to more serious conditions, such as hyperplasia and endocrine disturbance.

Can it be that the comparative indifference of the medical profession is responsible for the seeming increase in "endocrine unbalance" in so many persons in this country? The question is one well worthy of serious thought. For ascertaining many of the fundamental facts essential to the further attack on the goiter problem, special laboratories and great clinics are not required. Further studies like those mentioned, careful observations under conditions of every day practice, are eminently desirable. Let the situations described be a call to service on the part of energetic physicians.

1. Kimball, O. P., and Marine, David: Prevention of Simple Goiter, Arch. Int. Med. **22**: 41 (July) 1918. Kimball, O. P.: Rogoff, J. M., and Marine, David: The Prevention of Simple Goiter in Man, J. A. M. A. **73**: 1873 (Dec. 20) 1919.

2. Levin, Simon: One Thousand One Hundred and Forty-Six Goiters in One Thousand Seven Hundred and Eighty-Three Persons, Arch. Int. Med. **27**: 421 (April 15) 1921.

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Current Comment

THE STATUS OF VACCINATION AGAINST INFLUENZA

Prophylactic vaccination against influenza was practiced extensively during, but mostly following, the recent epidemic of the disease. From a scientific point of view, such inoculation seems somewhat premature, since the etiologic factors are not established. In some districts stock cultures were employed; in others a culture of a strain or strains isolated during the epidemic, and in still others a mixed vaccine composed of the bacillus of Pfeiffer, the streptococcus, the pneumococcus, the staphylococcus and other organisms. McCoy presented his impression, as gained from the uncontrolled use of these vaccines, that while theoretically they might be of value in the prevention of influenza, yet in every case in which they were tried under perfectly controlled conditions they failed to influence either morbidity or mortality. A well conducted investigation is worthy of note even when the outcome is negative in character. It may turn us away from false hopes and force us to seek new solutions for the problem at hand. In an elaborate study, Jordan and Sharp[1] of the Department of Hygiene at the University of Chicago conducted observations under the auspices of the influenza commission established by the Metropolitan Life Insurance Company of New York on approximately 6,000 persons from November, 1919, to June, 1920. About one half of these were vaccinated with a saline suspension of a standard mixed vaccine prepared by Dr. W. H. Park of the New York City health department. The remaining half were not vaccinated. Comparable members of the two groups in different localities lived under essentially identical environmental conditions. The influenza attacks among the vaccinated numbered 118, or 4.1 per cent.; among the unvaccinated the morbidity from this disease was 4.8 per cent. Rhinitis and bronchitis developed with about equal frequency in the two groups. There were slight variations in the incidence of the few cases of pneumonia, but the Chicago bacteriologists regard it as unlikely that any considerable degree of protection against influenza was conferred. Is it unfair to the proponents of vaccination against influenza and other respiratory infections to say: "Value unproven"?

PROHIBITION AND PROFESSIONAL HONOR

The Eighteenth Amendment to the federal constitution and the Volstead Prohibition Enforcement Law have brought to physicians a problem of the utmost importance, not only to the medical profession itself, but also to the public. The problem involves the right of the medical profession to prescribe as medicines certain products that come within the classification of alcoholic beverages—whisky, wine, beer, etc. A recent ruling of the Treasury Department permits the manufacture of beer for prescription purposes, and this ruling has raised the question: Can beer properly be considered a valuable therapeutic agent? A few physicians insist noisily that beer is a valuable therapeutic agent, and maintain that prohibiting a physician from prescribing beer is interfering unwarrantedly with his professional prerogatives. An equally vociferous, though smaller, group loudly protested some months ago against limiting the number of prescriptions a physician might write for whisky within any given time. The same principle was invoked in that case. As a purely abstract proposition it is debatable whether the question of the number of whisky prescriptions and of prescribing beer should both be left to the same court of last resort—the physician. Various other sophisms are equally debatable on the same abstract plane. Practically, and we live in a practical world, there are the best of reasons for limiting the number of prescriptions physicians may write for whisky. And there are equally excellent reasons for maintaining that the prescribing of beer could be prohibited altogether with little damage to the public health. It is worth bearing in mind in this connection that, entirely aside from federal regulations, there are at present twenty-four states which prohibit physicians from prescribing alcoholic liquors in any form. The question for discussion, however, is not whether beer, wine and whisky are or are not beneficial therapeutic agents. This question can be answered only by scientific evidence. The question is an ethical—a moral—question of the widest sociological and economic importance: In view of the fact that a few physicians have shown themselves to be morally incapable of accepting the responsibility for prescribing intoxicating liquors—to the detriment of the honor and reputation of the medical profession as a whole—shall the medical profession ask to be relieved of this responsibility? There is one body—and only one—through which the organized profession of the United States can express itself nationally: the House of Delegates of the American Medical Association—and undoubtedly the House will give this question thoughtful consideration at its coming meeting in Boston.

THE SHEPPARD-TOWNER BILL

As stated in our news columns, the Senate Committee on Education and Labor, May 20, reported favorably on the Sheppard-Towner bill. This bill, considerably amended, now provides for the appropriation of $1,480,000, $10,000 to be paid to each state and $1,000,000 to be apportioned among the states in proportion to their population, no part of the prorated amount to be paid until an equal sum shall have been appropriated by the legislature of the state for the purposes provided for in the act. The Children's Bureau is made responsible for the administration of the act; the chief of the Children's Bureau is directed to form an advisory committee consisting of the Secretary of Agriculture, the Surgeon-General of the United States Public Health Service and the United States Commissioner of Education. Not more than 3 per cent. of the total appropriation may be used for administration expenses. Any state desiring to avail itself of the benefits of the act must submit to

1. Jordan, E. O., and Sharp, W. B.: Influenza Studies, IV, Effect of Vaccination Against Influenza and Some Other Respiratory Infections, J. Infect. Dis. **28**: 357 (April) 1921.

the Children's Bureau a detailed plan for instruction in the hygiene of maternity and infancy through public health nurses, concentration centers and other suitable methods. To meet the objections of the advocates of personal liberty, an amendment provides that no state official or agent or any of the employees of the Children's Bureau shall have the right to enter any home over the objection of the parents. The report of the committee is practically the same as the report of the Senate committee on the same bill in the last session of Congress. It repeats the statement that the United States stands seventeenth among civilized nations in its maternal death rate; that most of this loss could be prevented by proper prenatal instruction, and that the bill has the unanimous approval of women throughout the country. As stated in a previous issue, THE JOURNAL does not favor this measure, since: (1) the principle of federal state aid as a means of financing public health work is an unsound financial policy; (2) public health work, except those activities which are clearly national in character, is essentially a function of the state and local government and should be paid for out of state and local funds; (3) no such emergency exists as has been claimed, and there are no reliable statistics by which it can be proved that the United States stands seventeenth in maternal death rate; (4) the means provided in the bill will not afford an effective remedy for existing conditions, and (5) and most important, if the federal government intends to inaugurate activities for the care of maternity and infancy or for any other public health measure, such work should be placed in the hands of the United States Public Health Service rather than under a bureau of the Department of Labor.

Association News

THE BOSTON SESSION

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Identification Certificates for the purchase of special rate, round trip tickets to Boston will be mailed to those members of the organization who forward a request for the Certificate, accompanied by a stamped, addressed envelop, to the Secretary, 535 North Dearborn Street, Chicago. These Certificates are necessary in order to secure the special rate, round trip railroad tickets. See JOURNAL, May 21, 1921, page 1445, for conditions under which tickets are sold.

Special Report on Local Anesthesia

Dr. Emil Mayer, New York, Chairman of the Committee of the Section on Laryngology, Otology and Rhinology, to Study and Report on Fatalities Following the Use of Local Anesthesia, states that this committee will report to the Section at its meeting to be held in Huntington Hall on the morning of June 10. The report will contain far reaching recommendations and will be the subject of discussion when it is presented to the Section.

Luncheon Following Clinics at Boston City Hospital

The Local Committee on Arrangements announces that the trustees of the City Hospital will give a luncheon at 1 p. m. to those physicians who attend the clinics at that institution, on Tuesday, June 7.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ALABAMA

Personal. — Dr. Seale Harris, Birmingham, has been appointed head of the General Gorgas Memorial Commission by President Denny, University of Alabama.

ARKANSAS

State Medical Meeting.—The forty-fifth annual meeting of the Arkansas Medical Society was held at Hot Springs, May 3-5, under the presidency of Dr. Gustavus A. Warren, Black Rock. The following officers were elected for the ensuing year: president, Dr. Charles H. Cargile, Bentonville; vice presidents, Drs. Donald Smith, Hope, Albert M. Elton, Newport, and James O. Rush, Forrest City; secretary Dr. William R. Bathurst, Little Rock (reelected), and treasurer, Dr. Robert L. Saxon, Little Rock (reelected). Little Rock was selected as the place of meeting for 1921.

CALIFORNIA

Revocation of Liquor Permits.—It is reported that Dr. Thomas Wilson Serviss, San Francisco, had his permit to write prescriptions for liquor revoked because he wrote a prescription for a patient who was not under his care.——Dr. George M. Terrill, San Francisco, is reported to have lost his permit because he gave whisky prescriptions to patients oftener than once in ten days.

"Unprofessional Conduct."—Dr. Galen Hickok, San Francisco, who, it is reported, was recently found guilty of criminal charges in the San Francisco courts and released on bonds pending an appeal of his case, has been cited to appear before the state medical examiners, June 29, and show cause why his license should not be revoked for "unprofessional conduct." At the court trial it was alleged that he was not the real Dr. Hickok, but had secured the license of a physician by that name in the East.

GEORGIA

Unveiling of Monument to Robert Battey.—The chief event of the state medical convention at Rome was the unveiling, May 2, of the monument to the memory of Dr. Robert Battey, who was the originator of Battey's operation, oophorectomy, first done at Rome, Aug. 27, 1872. The monument was given to the city by the Seventh District Medical Society, and the president, Dr. Howard E. Felton, Cartersville, made the presentation speech. Mrs. Grace Battey Bayard unveiled the monument to her father. The chief address was made by Dr. Howard A. Kelly, Johns Hopkins University, Baltimore. Dr. George R. West, Chattanooga, who had been a pupil of Dr. Battey's, also paid a tribute to his character and his ability as a physician and surgeon.

INDIANA

Hospital News.—According to plans announced by the American Legion, the cornerstone for the $100,000 Decatur County War Memorial Hospital, Greensburg, will be laid with elaborate ceremonies, May 29.

Personal.—Governor McCray has appointed Dr. Clarke Rogers, Indianapolis, as a member of the board of trustees of the Indiana Soldiers' Home, Lafayette, to succeed Dr. Carleton B. McCulloch, who resigned because he could not give the time to the work.

IOWA

Meeting of Women Physicians.—The State Society of Medical Women held its annual meeting at Des Moines, May 10, under the presidency of Dr. Lena A. Beach, Rockwell City.

State Medical Meeting.—The Iowa State Medical Society held its seventieth annual session, May 11-13, at Des Moines, under the presidency of Dr. Donald Macrae, Jr., Council Bluffs. Dr. Charles H. Frazier Philadelphia, delivered an address on "Achievements and Limitations of Neurological Surgery"; Dr. Edward Jackson, Denver, "Diseases of the Blood Vessels as Seen in the Eye," and Dr. Willis S. Lemon,

Rochester, Minn., "Clinical Study of Fifty Consecutive Cases of Pneumothorax." The following officers were elected for the ensuing year: president, Dr. Alanson M. Pond, Dubuque; president-elect, Dr. Charles J. Saunders, Fort Dodge; vice presidents, Drs. Smith A. Spilman, Ottumwa, and Mathew A. Tinley, Council Bluffs. Dr. Tom B. Throckmorton, Des Moines, was reelected secretary, and Dr. Thomas Duhigg, Des Moines, treasurer, for a period of three years. The next meeting will be held, May 10-12, 1922, at Des Moines.

KANSAS

Annual School for Health Instruction.—The annual school for physicians, health officers and public health nurses was held, May 16-20, at the University of Kansas School of Medicine, at Rosedale. The state legislature increased the public health appropriation 300 per cent.

LOUISIANA

Convention of Negro Physicians.—The Louisiana Medical, Dental and Pharmaceutical Association held a meeting, May 11-12, at Shreveport, under the presidency of Dr. Eugene C. Thornhill, New Orleans. A committee was appointed to draw up a charter making the association an incorporated body.

MARYLAND

Meetings.—Dr. Carlos Chagas, director of the Oswaldo Cruz Institute, Rio Janeiro, Brazil, spoke at the Johns Hopkins University School of Hygiene and Public Health, May 23, and on May 25 delivered an address in the Medical Amphitheater, Johns Hopkins Hospital, on "A Résumé of the Etiology and Clinical Aspects of American Trypanosomiasis."

To Study Malaria Problems.—The department of medical zoology, school of hygiene and public health, Johns Hopkins University, has arranged to send an expedition to Porto Rico, this summer to study the malaria and other problems involving disease-producing protozoa and their vectors. Dr. Robert W. Hegner, Ph.D., will devote his time especially to the study of the malarial organism and other blood-inhabiting protozoa and to the intestinal protozoa, and Dr. Francis M. Root, Ph.D., will make a survey of the mosquitoes, fleas and other distributors of pathogenic micro-organisms.

Personal.—Dr. Walter Walker Palmer of the Johns Hopkins School has accepted the post of professor of medicine and director of the medical clinic of the projected medical center in New York, formed by an alliance between Columbia University and the Presbyterian Hospital.——Dr. John J. Erwin of the staff of Mercy Hospital, Baltimore, has been appointed superintendent of that hospital, to succeed Dr. Irwin O. Ridgely, who resigned.——Dr. Leonard Ernest Neale was recently given a testimonial banquet on the completion of his twenty-fifth year as professor of obstetrics at the University of Maryland.——Dr. Anton G. Rytina, chairman of the Bay View committee, board of supervisors of city charities, Baltimore, has resigned from the board. He has also severed his connection with the South Baltimore General Hospital, in order that he may have more time for personal interests.

MASSACHUSETTS

New England Society of Psychiatry.—The semiannual meeting of the New England Society of Psychiatry was held at the Northampton State Hospital, Northampton, May 4, under the presidency of Dr. Walter E. Fernald, Waverly.

Diploma Lost or Stolen.—Dr. Archibald McMillan, Lawrence, Mass., writes that his diploma issued by the Bowdoin medical School in 1904 and his license certificate issued by the Massachusetts State Board of Registration in Medicine, dated March, 1905, have been lost or possibly stolen. State boards are warned to be on the lookout for these documents.

Bigelow Lecture.—An address "In the Time of Henry Jacob Bigelow," will be given by Dr. William J. Mayo, Rochester, Minn., June 6, at 8:30 p. m., in Jordon Hall, Huntington Avenue and Gainsborough Street, Boston. On this occasion will be made the first award of the Henry Jacob Bigelow Medal. Tickets of admission may be secured by addressing Dr. Walter C. Howe, secretary, Boston Surgical Society, 303 Beacon Street, Boston.

MISSOURI

Hospital News.—It has been announced that the site of the $1,000,000 hospital to be built as a national charitable institution, by the Shriners of the United States for crippled children of the United States—regardless of religion or relation to the Shriners' order—has been purchased in St. Louis. Plans for a 150-bed hospital are being drawn, and construction will be started soon.

NEBRASKA

Medical School Gets Appropriation.—The Nebraska legislature, recently adjourned, appropriated for the University of Nebraska College of Medicine and Hospital a total of $525,000 for the next two years. This includes $100,000 for a nurses' home. The university is planning to secure additional full-time professors in the departments of anatomy, physiology and pathology, and another in hospital pathology. The budget provides also for a full-time instructor in each of the four departments.

State Medical Meeting.—The annual meeting of the Nebraska State Medical Association was held at Lincoln, May 9-12, under the presidency of Dr. Miles S. Moore, Gothenburg. The following officers were elected for the ensuing year: president, Dr. Byron B. Davis, Omaha; vice presidents, Drs. Porter F. Dodson, Wilber, and Paul R. Howard, North Bend; secretary-treasurer, Dr. Ernest T. Manning, Omaha; corresponding secretary Dr. William P. Wherry, Omaha; delegate to the American Medical Association, Dr. Arthur D. Dunn, Omaha, and editor of the *Nebraska State Medical Journal*, Dr. Francis A. Long, Madison.

NEW YORK

Dedication of Research Laboratory.—The George Adler Blumer Research Laboratory will be dedicated, June 4, on the grounds of the Utica State Hospital, Utica.

Bloomingdale Hospital Celebrates Centennial.—The Bloomingdale Hospital, at White Plains, celebrated its one hundredth anniversary, May 26, by a pageant and a meeting attended by many psychiatrists, neurologists and insanity experts. The Bloomingdale Hospital is one of the oldest institutions for nervous and mental diseases in the United States.

New York State Association of Public Health Laboratories.—The fifth annual meeting of the New York State Association of Public Health Laboratories was held at Brooklyn, May 4. The officers elected were: president, Dr. Warren B. Stone, Schenectady; vice president, Dr. W. C. Noble, New York; secretary-treasurer, Miss M. B. Kirkbride, Albany; members of the Council, Dr. Walter S. Thomas, Clifton Springs, Dr. Ellis Kellert, Albany. The midyear meeting of the association will be held in autumn at the state laboratory, Albany.

New York City

Dr. Chagas of Brazil Honored.—The Rockefeller Foundation gave a dinner in honor of Dr. Carlos Chagas, head of the department of health in the Republic of Brazil, at the Waldorf-Astoria, May 20. Dr. George E. Vincent presided as toastmaster, and addresses of welcome were made by John D. Rockefeller, Jr., Dr. Hermann M. Biggs, Dr. Paulo de Proenca and the Brazilian ambassador to the United States, Señor Augusto Cochrane de Alencer.

New Medical Chambers.—Two five-story apartment houses at 114 and 116 East Fifty-Fourth Street are being remodeled for the exclusive use of physicians and surgeons. The title to the property has been taken in the name of the Medical Chambers, Inc. Twenty-four physicians have subscribed to the stock in the owner corporation on the cooperative basis. The directors of the corporation are: president, Dr. John E. Wilson; vice president, Dr. Duncan McPherson; treasurer, Dr. Howard Fox; secretary, Dr. Edmund P. Fowler.

Universal Military Training.—Caduceus Post, American Legion, of this city gave a dinner, May 12, at the Harvard Club at which Major-Gen. Merritte W. Ireland, Surgeon-General, U. S. Army, was the guest of honor. Surgeon-General Ireland delivered an address on the subject of medicomilitary preparedness, and a resolution of the committee on military affairs was approved requesting the American Medical Association at its coming session in Boston to discuss the matter of universal military training from a medical standpoint.

Administrative Center for Nursing Service.—Mrs. Jacob Schiff has made a gift of $300,000 for the purchase of a central administration building for the Visiting Nurse Service under the foundation of the Henry Street Settlement as a memorial to Jacob Schiff. The building purchased is at the southeast corner of Fortieth Street. The new building will be used for registrars, statisticians, the making of medical supplies, for staff meetings and classroom purposes. At present there are

twenty-two nursing centers in New York City which operate under this central administration building. The purpose of the organization is to make a visiting nurse service available for every one according to financial ability to pay.

Columbia University and Presbyterian Hospital Combine.—The project for the amalgamation of the College of Physicians and Surgeons of Columbia University and the Presbyterian Hospital, which for various reasons has not been brought to fruition in the past, now promises to become an actuality. The trustees of Columbia University announce that gifts totaling $11,000,000 have been received for a site, building and endowment. It is estimated that $3,000,000 or $4,000,000 additional will be required. Under the terms of agreement for permanent alliance, Columbia University and the Presbyterian Hospital each continues its independent existence and control, while providing a common administrative board for the oversight of the joint enterprise. An anonymous donor has provided a site valued at $1,000,000 between Broadway and Fort Washington Avenue and One Hundred and Sixty-Fifth and One Hundred and Sixty-Eighth streets. The first administrative board will be composed of John G. Milburn, Dr. Walter B. James and William Barclay Parsons, representing Columbia University, and Edward S. Harkness, Henry W. DeForest and William Sloane, representing the Presbyterian Hospital.

NORTH CAROLINA

Organization of Tri-County Society.—At the meeting of physicians of Caldwell, Lincoln and Catawba counties held, May 11, at Hickory, there was organized a medical society to be known as the Caldwell-Catawba-Lincoln County Medical Society, and the following officers were elected: president, Dr. Lester A. Crowell, Lincolnton; vice president, Dr. Jacob H. Shuford, Hickory, and secretary-treasurer, Dr. William P. Speas, Hickory.

Resolution of State Medical Society.—At the recent annual meeting of the state medical society at Pinehurst, the following resolution was unanimously adopted:

Resolved, That it is the sense of the Conjoint Session of the Medical Society of the State of North Carolina and the State Board of Health that whole-time salaried officials and other employees of the State Board of Health should not be elected to, or serve in official positions in the State Medical Society, N. C. State Health Officers' Association or other nonofficial public health agencies of this state.

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PENNSYLVANIA

Pittsburgh Ophthalmological Society.—At the meeting of the society, held, May 20, Lieut.-Col. Henry Smith, London, late of India, delivered an address on "Cataract."

Physicians to Honor Service Veterans.—Plans are being made by the Dauphin County Medical Society and the Harrisburg Academy of Medicine to give a dinner on Memorial Day in honor of the Harrisburg physicians who served in the World War.

Chiropractor Denied New Trial.—It is reported that Dr. H. T. Bly, Washington, a chiropractor who was convicted of a statutory charge preferred by Iva Stickles, was denied a new trial. The court held that new evidence was insufficient to alter the original verdict.

Philadelphia

Two New Clinics Open.—Dr. C. Lincoln Furbush, director of public health, May 16, formally opened two additional clinics at the Philadelphia General Hospital. These were the neuropsychiatric clinic and the prenatal clinic.

Honor Mme. Curie.—Madame Marie Curie, on her visit to the University of Pennsylvania, had conferred on her the degree of doctor of laws. This was the first time in the history of the university that special exercises were held for such an occasion.——Madame Curie on her visit to the Women's Medical College, May 23, received the honorary degree of Doctor of Medicine from the oldest institution of its kind in the world.

Personal.—Surg.-Gen. Edward R. Stitts, U. S. Navy, was the guest of honor at a recent dinner given by members of the class of 1889, Medical Department, University of Pennsylvania, at the University Club, Philadelphia.——Dean George H. Meeker has announced the appointment of Dr. Charles E. de M. Sajous to be professor of applied endocrinology and Dr. George B. Wood to be professor of laryngology in the Graduate School of Medicine, University of Pennsylvania.——Dr. George W. Norris has been promoted to the position of professor of clinical medicine in the University of Pennsylvania, and has been put in charge of medical instruction to third and fourth year students at the Pennsylvania Hospital.

Radium for the Philadelphia General Hospital.—The authority to Dr. C. Lincoln Furbush, director of the department of public health, Philadelphia, to purchase 2 gm. of radium and the installation of an emanation plant for the Philadelphia General Hospital, is now an assured fact. The city council, May 19, passed unanimously an ordinance providing for such purchase. It is planned to be able not only to treat persons suffering with malignancy within the Philadelphia General Hospital, where there are always from 100 to 150 cases, but also to offer this treatment to patients who have not been admitted to the hospital.

Philadelphia College of Pharmacy and Science.—The College, founded 1821, is preparing to enter its second century of service with a new president, plans for a new site, a new building and a new scholastic program. Rear Admiral William C. Braisted, retired, has been selected as president. The site will probably be on Fairmount Parkway between Twentieth and Callowhill streets and the plans call for a three-story stone structure with adequate space for lecture, laboratory, exhibition and assembly purposes. Centennial week will begin with the baccalaureate sermon, June 12, and include Alumni day the banquet at the Bellevue Stratford Hotel, and commencement exercises, June 15, at the Academy of Music.

SOUTH CAROLINA

Personal.—Dr. James A. Hayne, secretary of the state board of health, was elected president of the South Carolina Public Health Association, which was organized at the annual meeting of the state medical association held at Columbia, April 19-20.

TENNESSEE

Conference of State Health Board.—At a recent meeting held at Nashville, the state board of health selected as its president Dr. Walter J. Miller, Johnson City.

TEXAS

Appointment of Director of Bureau of Child Hygiene and Public Health Nursing.—Announcement of the appointment of Mrs. Lyda K. King as director of the Bureau of Child Hygiene and Public Health Nursing of the state board of health has been made by Dr. Manton M. Carrick, state health officer.

State Medical Meeting.—The annual meeting of the State Medical Association was held at Dallas, May 10-12, under the presidency of Dr. Ira C. Chase, Fort Worth. The following officers were elected for the ensuing year: president, Dr. Thomas J. Bennett, Austin; president-elect, Dr. Joseph D. Becton, Greenville; vice presidents, Drs. Charles E. Durham, Hico, William Myers, Seguin, and Sidney J. Wilson, Fort Worth, and secretary, Dr. Holman Taylor, Fort Worth (reelected).

New Board of Medical Examiners.—Governor Neff of Texas has recently announced the following as members of the state board of medical examiners: Drs. William L. Crosthwait, Waco; Stephen L. Mayo, Belton; James T. Moore, Houston; Horace C. Morrow, Austin; Thomas J. Crowe, Dallas; Marquis E. Daniel, Honey Grove; Oscar R. Grogan, Fort Worth; John M. Watkins, Luling; J. F. Bailey, Waco; R. R. Norwood, Mineral Wells, and George H. Sandifer, Abilene.

New Society Organized.—The State Pathological Society of Texas was organized at Dallas, May 9, with fifteen charter members. Officers elected were: Dr. Moise D. Levy, Galveston, president; Dr. James H. Black, Dallas, vice president; Dr. Wilbur F. Thomson, Beaumont, secretary-treasurer. The society will hold two meetings annually, one of which will be held one day in advance of and at the same place as the annual meeting of the Texas State Medical Association. Active membership in the society is limited to qualified physicians, in good standing in the state medical association, who are limiting their practice to clinical pathology, or who are actually engaged in the teaching of pathology or bacteriology.

WISCONSIN

Defeat of Antivaccination Bill.—The Peltier antivaccination bill was killed in the state senate by a vote of 20 to 9.

CANADA

Massachusetts-Halifax Health Commission.—The executive officer of the Massachusetts-Halifax Health Commission announces a number of new appointments to the staff. Dr. James A. M. Hemmeon has been appointed one of the attending ear, nose and throat specialists in the health center and will attend clinics each Friday afternoon and operate each Tuesday morning. Dr. Harry Morse has been appointed by the commission as special assistant in the provincial laboratory under the direction of Dr. Albert G. Nicholls. A special dental service is being organized for the summer months. It will be under the advice and general guidance of the consultant in dentistry, Dr. Frank Woodbury, and Dr. Arabella MacKenzie, a pediodentist at the preschool age dental clinic in Admiralty House health center. Dr. John S. Bagnal has been appointed supervising dentist with Dr. J. H. Lawley, as first assistant. The school board of Halifax has arranged to have the school nurses during the latter half of May and June make social investigations in the homes of children needing dental work and make engagements for their treatment in the dental infirmary. The newly appointed school nurse will begin work at once in order to help speed up this campaign of dental hygiene.

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GENERAL

American **Gynecological Society.**—The forty-sixth annual meeting of the society will be held, June 2-4, at Swampscott, Mass. Drs. William Blair Bell, Liverpool, and William E. Fothergill, Manchester, England, have been invited to present papers.

Reciprocal Relations in Medical Licensure.—The Department of Education of the State of New York reports that New York now has reciprocal relations with California, Delaware, Illinois, Indiana, New Jersey, Ohio, Utah, Virginia and Wisconsin.

Knights of Columbus in Tuberculosis Campaign.—A Knights of Columbus National Committee is announced with Dr. Edward W. Buckley, St. Paul, "supreme physician," at the head, for the investigation of the causes and care of tuberculosis in the United States. This committee will act in conjunction with the national and state health services and the Red Cross.

Medical Papers Stolen.—It is reported that the following documents have been stolen from Dr. Jacob Shulansky of New Haven, Conn.: (*a*) Yale diploma; (*b*) reciprocity license from the state of California, dated March 18, 1920, No. C-1542; (*c*) diploma granting M.D. degree from Columbia University, issued June 3, 1914; (*d*) Connecticut license. State boards are requested to be on the lookout for these documents.

International Congress on History of Medicine.—The second international congress on history of medicine will be held in Paris, July 1-5, under the auspices of the Société Française d'Histoire de la Médécine and be presided over by Professors Jeanseleme and Menetrier. The congress will be opened by the inauguration of the new museum of medical history. American doctors are requested to contribute communications and will be welcomed as members of the congress. Further details may be secured in this country from Dr. Edward B. Krumbhaar, Philadelphia General Hospital, Philadelphia.

Reduction in Number of Senate Committees.—Under recent reorganization plans of the Senate, the Committee on Public Health and National Quarantine has been abolished. All legislation relating to public health and kindred subjects will hereafter be considered in the Senate by the Committee on Education and Labor, of which Senator Kenyon of Iowa is chairman. The abolishment of the Public Health Committee follows plans formulated some months ago for a reduction in the number of standing committees, so that at the present time there are only thirty-four committees in the Senate. The former number was seventy-five.

Senate Committee Makes Favorable Report on Sheppard-Towner Bill.—The committee on education and labor of the Senate has made a favorable report on the Sheppard-Towner maternity bill. No material changes have been made in the measure, which provides that $10,000 shall be paid annually to each state "for instruction in the hygiene of maternity and infancy through public health nurses, consultation centers and other suitable methods," and that $1,000,000 shall be prorated to the states in proportion to their population. Each state is required to spend an equal amount of money in addition to that supplied by the federal government. This same bill passed the Senate the last session but failed in the House.

Recognition of Medical Colleges.—Reports received since the publication of Table D in state board statistics in THE JOURNAL, April 30, 1921, show the following changes: the Eclectic Medical College, Cincinnati, is reported as recognized in Tennessee; for Marquette University School of Medicine, the "x" in the column for Pennsylvania is a typographic error; the California board reports that recognition has been withdrawn from the Chicago Medical School, the Kansas City University of Physicians and Surgeons, and the Middlesex College of Medicine and Surgery. The last three institutions named, therefore, are reported as not recognized, respectively, in forty-two, forty-six and forty-three states. The Eclectic Medical College is recognized in all but nine states, and Marquette University School of Medicine is recognized in all states.

Hearing on Volstead Bill.—Proprietary medicines came up for a hearing at the recent meetings of the House Judiciary Committee considering the Volstead bill prohibiting the sale of beer for medicinal purposes. Representatives of manufacturers of proprietary medicine demanded that Congress take action to prevent the continued existence of the medical "bootleggers." The charge was made that many physicians had gone into the liquor business. The statement was to the effect that prior to the enactment of the Volstead Act 80 per cent. of the makers of legitimate medicine in which alcohol was used were required to medicate it so as to render it unfit as a beverage, but since then thousands of permits had been issued under which disguised booze was turned out by the wholesale. One of the features of the meetings of the committee is that very few witnesses have testified as to the necessity of beer as a medicine for the sick.

Senator McCormick Introduces Welfare Bill.—By a measure introduced by Senator McCormick of Illinois in the Senate, it is proposed to create a Department of Public Welfare to take over in their entirety the functions of the Bureau of War Risk Insurance, the office of the Surgeon-General of the Public Health Service and the United States Public Health Service. The proposed measure also provides that the new department have jurisdiction over the St. Elizabeth's Hospital, the Howard University, the Freedmen's Hospital, the National Home of Disabled Volunteer Soldiers, the Columbian Institute for the Deaf. The Federal Board of Vocational Education is abolished in its entirety and its functions transferred to the new department. The United States Interdepartmental Social Hygiene Board is also eliminated and transferred to the new department similarly. All boards, bureaus, commissions and branches of the service affecting public health will come under the new Secretary of Public Welfare, according to this measure, who would be a member of the President's cabinet.

New Bill for Hospital Facilities.—The removal of all restrictions in the expenditure of $18,600,000 appropriated by the last session of Congress for adequate hospital facilities is contemplated in a bill introduced by Congressman Langley of Kentucky. The original act stipulated that $6,100,000 should be used in the remodeling and the extension of existing government hospitals and institutions and that the remainder, $12,500,000 should be expended in the erection of five new government hospitals at a cost of $2,500,000 each. Selection of the sites was vested in the Secretary of Treasury, who recently appointed a special board of four of the leading physicians of the country to conduct an investigation and make recommendations as to their location. The Langley bill, however, overturns this arrangement and gives the Secretary of Treasury authority to expend the entire sum in rebuilding or constructing additions to hospitals already owned by the government. The measure was considered of such importance that it was rushed through the Committee on Public Buildings and Grounds and reported to the House favorably within forty-eight hours. The House has not yet acted.

LATIN AMERICA

Election of Officers.—The Sociedad de Pediatría de Montevideo recently elected Dr. Luis Morquio, president; Dr. C. Pelfort, secretary; Dr. A. Saráchaga, librarian, and Dr. Alicia Armand Ugón, treasurer.

Tribute to Professor Couto.—The National Academy of Medicine of Rio de Janeiro recently installed a bronze bust of its president, Miguel Couto, professor of clinical medicine and author of numerous medical works, long a leader in the medical profession of Brazil.

Resignation of Professor Güemes.—The *Semana Médica* relates that the students and other friends of Dr. Louis Güemes have petitioned the authorities to place the portrait of Professor Güemes in the hall where he has taught clinical medicine for so long, and to give his name to the hall and to a ward in the hospital. It is also proposed to issue a volume on his works and present him with a gold tablet.

National Medical Congress in Peru.—The profession in Peru is planning a comprehensive national medical congress, and the Academia Nacional de Medicina has issued an appeal to all to aid in making it a success and in promoting closer relations between the members of the profession. The committee in charge includes Dr. E. L. Garcia and Dr. H. Larrabure, and the date of meeting will be August 10 of the current year, in honor of the centennial of the republic.

Personal.—Prof. C. Pelfort of Montevideo is leaving for a trip to Europe.——Prof. Samuel Molina of the chair of obstetrics at the University of Beunos Aires has retired from active practice, giving up his charge of the Hospital Rivadavia of which he has been director for so many years. The *Semana Médica* credits him with the initiation of obstetrics instruction in Argentina, where he has trained various generations of physicians.——A year's leave of absence has been granted by the University of Buenos Aires to Dr. A. Bachmann, professor of bacteriology, and to Dr. J. G. Fernández, professor of histology. Reasons of health compel the change of scene for the latter, as also for Prof. F. I. Castro who has likewise been given a year's leave.

FOREIGN

Peking Union Medical College.—The dedication of the building of the Peking Union Medical College and the inauguration of the new director, Dr. Henry Houghton, will take place in connection with a medical conference to which scientists from various parts of the world are being invited, September 15-22, at Peking, China.

Tribute to Professor Ascoli.—Prof. V. Ascoli, director of the medical clinic at Rome and editor in chief of *Policlinico*, was recently decorated with the Order of the Crown of Italy in tribute to his achievements as organizer and instructor, the Istituto di Clinica Medica being said to represent the highest attainments to date in clinical medicine. The students gave him an ovation on the occasion.

Prize for Study of Bicycling.—Our German exchanges announce that a prize of 5,000 marks has been offered for the best work on "Bicycling and Sexuality" received before April 1, 1923. The prize is offered by a German-Chilian, and further details can be obtained from Dr. Max Hirsch, Motzstr. 34, Berlin. There is no national restriction to competition. The jury comprises five leading German scientists.

Committee to Investigate Phases of Roentgen Ray.—As a result of the recent deaths of Drs. Ironside Bruce, London, and Adolphe Leray, Paris, a committee of eminent physicists, physiologists and radiologists has recently been appointed in London to investigate and report on the following phases of the roentgen ray: (1) The changes induced in tissues by the roentgen rays, and particularly on the blood changes. (2) The properties of the roentgen rays and the best means of controlling their action. (3) The equipment of roentgen-ray and electrical departments, with a special view to the protective measures employed. (4) Recommendations for the guidance of the assistants in those departments, particularly dealing with the hours of work and the need for fresh air and change.

Aid for German Science.—An organization has been formed, the *Notgemeinschaft* for German Science, which has been discussing ways and means to promote scientific research in Germany. The *Medizinische Klinik* quotes from the proceedings that, of the total 3,000 German scientific periodicals, 400 are to be continued with the aid of the organization. To make up for the lack of foreign publications during the war, a large sum will be appropriated to insure that all the important foreign journals will be represented in Germany at least by one or two copies of those published during the last few years, while the current numbers will be obtained by exchange. A purchasing and loan center for scientific material and instruments is to be installed at some central point to maintain the experimental research of the country on a higher limit, and check its present down grade in comparison to foreign countries. It is also planned to supply animals for experiments in medical and biologic research.

Deaths in the Profession Abroad

Lawrence Drew Shaw, London; University of Glasgow, 1904; lieutenant-colonel, R. A. M. C., during the World War; died, March 17, aged 40.——**Rutherfoord John Pye-Smith,** Sheffield, England; M.R.C.S. (London), 1871, F., 1875; L.R.C.P. (London), 1872; emeritus professor of surgery, University of Sheffield, England; died, March 23, from influenza. ——**Robert Murray Leslie,** London; University of Edinburgh, Scot., 1905; M.R.C.P. (London), 1893; a well known contributor to medical literature; died, recently, aged 55.

Government Services

Care of Disabled Ex-Service Men

With a view to utilizing fully the facilities afforded by the Navy Department, the former training station at Gulfport, Miss., which has been discontinued as a naval establishment, has been turned over to the Treasury Department on an indefinite lease to be used for the care of war risk patients. It is planned to use Gulfport only for shell-shock patients, neurotics and nervous cases that are so far improved as to need only a short period of observation and treatment pending discharge. The station will be operated as a hospital of about 1,000 beds, and will meet a great need for hospital facilities in the South. Inspection of the plant will shortly be made with a view to its final use as a national soldiers' home when no longer required for hospitalization of war risk cases.——Plans concerning war risk cases in the New England States involve the use of naval hospitals for types of patients that can be well handled at the naval hospitals, heretofore assigned to hospitals not under the government.

New Rules for Army Medical Schools

Plans for the conduct of schools of the Army Medical Department as drawn up by Surgeon-General Ireland have been approved by the Adjutant-General of the War Department. They provide for instruction for the members of the National Guard and Reserve Corps at the Medical Field Service School at Carlisle Barracks, Pa. Four courses are prescribed during the year consisting of ninety students at each course. The first course of instruction begins June 6 and ends July 18.

During this period seventy-five officers of the Regular Army, five of the National Guard and ten of the Reserve Corps will be admitted to the school. The second course opens August 1 and ends December 21. The students will be divided as follows: Fifty Regular Army medical officers, ten National Guard medical officers and thirty Reserve medical officers. The third course begins January 9, 1922, and ends February 20. This course is exclusively for National Guard and Reserve officers, the reservations consisting of thirty National Guard and sixty Reserve officers. The fourth course opens March 13 and ends April 24, 1922, with thirty National Guard and sixty Reserve officers making up the student body. The instruction given will be progressive and extend from the school of the soldier to the organization, functions and administration of the medical organizations attached to field forces or in home territory, in peace or in war, such as regimental detachments, medical regiments, evacuation hospitals, surgical hospitals, hospital trains, general hospitals, station hospitals. The course is also designed to prepare the inexperienced officer for the discharge of military duties on entering the service, irrespective of whether his assignment be with mobile or fixed formations. Special advanced instruction will also be conducted for officers whose war and field experiences indicate their fitness for advanced instruction. All applications from the National Guard and the Officers Reserve Corps for permission to enter the Medical Feld Service School and take advantage of these courses should be forwarded to the Surgeon-General of the Army at least two months prior to the opening of the course. Each applicant should specifically indicate the course desired and its inclusive dates as given in this schedule, and include the age of the applicant, a brief statement of his previous military experience and any training courses he has previously followed. No applications should be submitted for the course to be given from June 6 to July 18, 1921, as the Surgeon-General has already designated the officers who are to attend this course. The reservations in case of National Guard officers of the Medical Corps will be handled by an allotment made to the chief of the Militia Bureau.

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Foreign Letters

PARIS

(From Our Regular Correspondent)

April 29, 1921.

The Professional Orientation of Medical Students

At one of the recent meetings of the Academy of Medicine, Dr. Paul Le Gendre, honorary physician to the hospitals of Paris, read a very interesting communication on the professional orientation of medical students. He viewed the subject from three different angles; the moral, the technical and what he termed the regional point of view.

From the moral standpoint, it is the duty of professors in legal medicine to give instruction in the science of professional duties and etiquette as well as in medical jurisprudence, and thus to make known to future practitioners the extent of their legal responsibilities. It is a worthy task which might of itself well constitute the subject-matter of specialized instruction. Aside from acts of physicians that are sufficiently reprehensible to be actionable in a court of justice and are of comparatively rare occurrence, it is incumbent on instructors to warn future practitioners against certain breaches of professional etiquette, certain tendencies to disloyalty toward their confrères, and certain temptations in the way of more or less concealed charlatanism. The influence that instructors in hospitals can exert in fortifying students against such moral blemishes is of prime importance if they will only seize the opportunities that present themselves to connect up the routine clinical instruction with examples from actual life illustrating professional difficulties of a moral nature that continually arise in the course of one's regular practice; if they will only take the trouble to point out the best and the most honorable solutions for such difficulties, and if they will endeavor to develop in their pupils, along with the knowledge of the psychology of diseases, a clear notion of the moral and social aspects of medicine. As for the question of keeping practitioners in the path of strict professional morality, this task devolves on the councils on family and disciplinary matters connected with our various medical associations and syndicates, since we still lack an order of medical men, which has been proposed several times, under various forms, since 1845, but which so far has proved to be unrealizable.

As to the so-called technical side of the orientation of the medical student, by that is meant his guidance toward the choice, among the various modes of professional activity, of the form from which he will be able to derive from his doctor's diploma the greatest advantages for himself and society in general.

The third type of orientation that is desirable is the regional, which is concerned with the adaptation of the number of practitioners and the various categories of specialists to the presumable future needs of the people with as high a degree of accuracy as possible. If there is a superabundance of physicians in any locality, that fact cannot help but jeopardize the moral tone and character of all the physicians in that community, or it will at least discourage them from striving after the highest ideals, since it will become increasingly difficult for them to support themselves honorably by their profession.

Dangerous Medical Publicity

The considerable increase, due to the war, in the number of persons suffering from venereal disease has given rise to a type of publicity that is especially shocking to the sensibilities. This publicity has survived the close of hostilities, and now, at every step, one's gaze is attracted by flaming placards of specialists guaranteeing the cure of venereal disease within various spaces of time, but usually short. At the instance of Monsieur Emile Massard, the municipal council of Paris has requested the prefect of police to prohibit the exhibition of such shameful advertisements.

MEXICO CITY

(From Our Regular Correspondent)

April 24, 1921.

Health Department Activities

The government has approved the new budget submitted by the federal health department which amounts to 2,500,000 pesos, representing an increase of about one-half million pesos compared with the previous year. Among the activities which will be extended, reference must be made to the National Laboratory, which will be named hereafter Instituto Nacional de Higiene.——For more than thirty years the health department has occupied an old dirty building which was the custom house in colonial times, but lately the department has moved to a modern building on the Paseo de la Reforma, in one of the most aristocratic districts of Mexico. Now it will have sufficient room for its work and possess equipment befitting a public health institution of this character.——The reports received from Veracruz and Mérida, where the campaign against yellow fever is being conducted with the cooperation of the Yellow Fever International Commission, are very satisfactory. Not only have no cases of yellow fever been reported recently, but the number of mosquito breeding places is decreasing. This fact, which is duplicated in other places where the antimosquito campaign is conducted without the cooperation of the yellow fever commission, gives hope that during the remainder of the year very few cases will be reported, if any at all. The department has included Overton and Denno's "The Health Officer" among the books which health officers must possess for consultation purposes.——The president of Mexico has asked the department to submit plans for the establishment of a tuberculosis sanatorium. This institution will probably be built in the near future in a woody place near Tacubaya at a height of more than 2,500 meters (about 8,000 feet).

Public Health Department Accepts Classification of Council on Medical Education of American Medical Association

In passing on the validity of medical diplomas submitted from American colleges, the national board of public health has decided to base its opinions on the classification of medical schools by the Council on Medical Education of the American Medical Association.

Personal

General T. C. Lyster, chairman of the Special Commission Against Yellow Fever, after making an inspection trip through the most important cities on both Mexican coasts and discussing with the head of the public health department measures to be taken in order to prevent a new outbreak of the disease, has returned to his home at Los Angeles.——Sanitary Engineer J. A. Le Prince has also returned to the United States after a stay of several months at Tampico, where he directed with praiseworthy energy the antimosquito campaign. ——Dr. J. González Urueña has been appointed president of the Mexican committee which will have charge of the preliminary steps for the Second South American Congress of Dermatology and Syphilology, to which Mexican physicians have been invited. Dr. R. González, one of our own and prominent physicians, was appointed honorary president of the committee, and Dr. R. Cicero, vice president.——Drs. H. Hartman and Lockwood of the Mayo Clinic of Rochester,

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Minn., have spent several days here.——In the near future, Dr. L. F. Obregón is expected to be appointed minister of Guatemala to Mexico. Dr. Obregón is an old friend of Mexico, where he has spent several years.——Dr. E. Landa has been appointed assistant chief of the section of yellow fever, malaria and hookworm disease of the department of public health.——Dr. R. Granillo, who was taking a postgraduate course in bacteriology and hygiene at Cambridge, Mass., on a Rockefeller Foundation fellowship, has been compelled to return to Mexico on account of sickness. The foundation sent two attendants, one of them a physician, to accompany him on his return.

Academy of Medicine

After considering the papers submitted for the $25,000 prize offered by *El Universal* to the Mexican research worker who discovered the cause of tabardillo, the Academy of Medicine voted unanimously that none of the papers presented deserved the prize.

Among several communications presented recently before the Academy of Medicine, mention may be made of those of Drs. I. Prieto, Diaz Lombardo and Brioso Vasconcelos. The first discussed Plaut and Steiner's method of treating general paralysis through inoculation of living Obermayer's spirilla. These germs cause an attack of relapsing fever in the patient, who is afterward treated with arsphenamin or its derivatives to check in this way both infections, the preexistent and the artificially induced. Besides the German publications, this method has also been discussed by Dr. Lafora of Madrid, a prominent neurosyphilologist and former pathologist of the Government Hospital for the Insane at Washington, D. C. Dr. Diaz Lombardo discussed a French case in which the patient under spinal anesthesia exhibited apnea for several hours which was checked only through artificial respiration. This communication was discussed by Drs. Izquierdo and Velásquez Uriarte. The former reported a similar case that happened in Mexico ending in the patient's death, and the second pointed out the advantages of the epidural injections of procain. Vasconcelos' contribution was on the pathogenic rôle of *Trichocephalus dispar*, which in his opinion is far from being a harmless intestinal guest, as stated by some authors. In addition, he pointed out the poor results given by thymol and chenopodium oil. He also called attention to the need of finding out whether the plant *Ficus glabrata* is found in Mexico, as its juice is considered effective against this parasite, according to authors who have tried it. The cases mentioned by Dr. Carrillo and Cervera supported the belief, not entirely new, that the worm is pathogenic.

LONDON

(From Our Regular Correspondent)

April 26, 1921.

Corporal Punishment in Schools

The Medical Officers of Schools Association has passed the resolution: "In view of the evidence of damage from caning of the hand, and the possibility of consequent impairment of function, this society is of opinion that caning on the hand should be forbidden." In a discussion on the subject, Dr. E. H. T. Nash referred to instances of injury he had seen, and to a questionnaire he had sent round to which there was an almost unanimous reply that, while corporal punishment was an occasional necessity, it should never be by caning on the hand. He advocated the tawse as used in Scotland, or else the cane on Nature's appointed place. Canon A. A. David, headmaster of Rugby School, thought that punishments had much decreased in the last twenty years. Boys were better trained in preparatory schools and enjoyed increased activities, so that masters could concentrate on encouragement and guidance rather than on the restraint of the rod. The less boredom existed, the less need for punishments, but the element of fear was still necessary. If they caned, they must hurt. Mr. C. W. Crook, ex-president of the National Union of Teachers, said that the elementary school teacher was at a disadvantage compared with the public school masters, as he had not the power of expulsion. The risks of caning had been much exaggerated. A body, like the London County Council, responsible for a million children, would not have adopted caning on the hand with the restrictions it had without having some idea that it was the best form of punishment; and, if not, what was there for girls?

Eye Strain in Cinemas

Last year a letter was sent by the London County Council to the Illuminating Engineering Society asking for information with regard to "possible causes of eye strain in cinemas and the best means of removing them." A joint committee of representatives of the Council of British Ophthalmologists, of the cinema industry, the Illuminating Engineering Society, the Physiological Society, and medical officers of the London County Council was constituted to inquire into the matter. The questions arising from the terms of reference were distributed among four subcommittees, which contained at least one member from the other committees so as to avoid overlapping and to facilitate exchange of views. A number of experimental demonstrations were witnessed, various types of cinema halls were visited, and other data were collected. No outside evidence was called, the questions being considered only from the expert and technical aspect. In the conclusions, chief place is given to the question of proximity of the seats to the screen. The pronouncement is made that the angle of elevation subtended at the eye of a person in the front row between a horizontal line and one running to the top of the picture should not exceed 35 degrees. This angular measurement was considered the best way to express such composite factors as size of picture, elevation of screen, and distance. The angle stated was found not to cause visual discomfort through the sustained effort of raising the eyes to view a high picture. On similar grounds it was considered that the lateral angle should be limited to 25 degrees. The maximum distance from the screen to the farthest seats should not be more than twelve times the height of the picture—that it to say, the angle of view should not be less than 5 degrees; but on this point the committee does not make a definite recommendation, as in no case was the limit suggested exceeded. Other questions considered were flicker, imperfections of the film, mechanical defects, nature and brightness of the screen, permissible amount of general light in the hall, and portable outfits for use in schools. Two kinds of flicker were distinguished: a physiologic flicker due to alternations of light and dark, accentuated by strong contrasts in the picture and more apparent at the periphery of the retina, and flicker due to disintegration of the separate pictures, which is most noticeable near the screen. Other conditions which disturb vision are scratches and tears in the film, worn sprocket-holes, instability of projection apparatus, and faulty manipulation; but on these points the committee did not see its way to set up a criterion by which to condemn the exhibition of any particular hall. In the matter of brightness of picture much depends on the quality of the screen. A semipolished aluminum screen was found to give the brightest picture for those directly in front, but this advantage is counteracted by the serious diminution of light when viewed from the side seats. On the whole, the committee were disposed to favor a dead-white screen as the best for common use. As to general illumination of the hall, the committee is satisfied that the present regulations requiring an intensity of not less than one fortieth of a foot candle is

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reasonable and does not prejudice the picture on the screen; but they think that it would be an advantage to graduate the lighting so that the back of the hall should be better illuminated than the front, which derives a fair amount of light from the screen. The method of graduated lighting would be a great advantage to people coming in from the bright outdoor light, and would not interfere with a proper view of the picture. Of course, no unshaded source of light should be visible to an observer looking toward the screen. Several kinds of portable apparatus were examined which, though not mechanically perfect, indicate that in the near future an apparatus suitable for use in schools and lecture theaters may be anticipated. But before such can be considered safe, some form of noninflammable film must be used, as in inexperienced hands there is a grave risk of unwound film being set on fire. In view of the probability of the cinema taking a place in educational work, mechanical perfection and avoidance of eye strain are most important. This report, which coordinates technical and medical opinion, is therefore valuable.

Colonial Objection to the Increased Subscription of the British Medical Association

At a meeting of the New Zealand branch of the British Medical Association, it was announced that in consequence of the increased subscription of the British Medical Association the amount to be remitted annually to the London office was raised from $5 to $7.50. The new rate had been adopted at the annual meeting of the association at Cambridge last year, and the reasons for it were increased cost of printing, paper and labor. The Victorian branch of the association, while agreeing to increase its subscription, had sent to the London office an emphatic protest and had applied for a rebate, so that the branch might be in the same position as before. It was resolved to act in the same manner as the Victorian branch.

BELGIUM

(From Our Regular Correspondent)

April 15, 1921.

Statistical Study on the Population of Belgium

The minister of the interior lately published an important work entitled "Annual Statistical Report of Belgium and the Belgian Congo for the Year 1914." This work was in course of preparation when the war broke out. From the beginning of the German occupation, and during the whole course of hostilities, the buildings of the various ministerial departments were occupied by the German authorities, in consequence of which many manuscripts were lost. After the signing of the armistice, it was necessary to make duplicates of all the lost documents, which explains the delay in the publication. However, in spite of the delay, this statistical study contains several points of interest. We have abstracted from the report such material as bears more particularly on the medical profession and the associated problems of social medicine, hygiene and education.

Population

The excess of births over deaths reached, in 1913, 59,872, or 53 per cent.; that is to say, for each 100 deaths there were 153 births. The average excess of births over deaths for the period from 1881 to 1890 was 46 per cent.; from 1891 to 1900, 51 per cent., and from 1901 to 1910, 59 per cent. The increase of this excess is due, as was also the case in 1912, to a decrease in the number of the deaths and not to an augmentation of the births. There were, in 1913, 171,099 births, or 22.40 births per thousand inhabitants. The proportion of boys to girls, among the births, was, in 1913, 104 boys to 100 girls. This proportion has not changed since 1870. Of the total number of married men concerning whom statistics as to the number of children they had were available, 19.08 per cent. had no children; 20.70 per cent. had one child; 18.55 per cent., two children; 13.03 per cent., three children; 16.17 per cent., four or five children; 11.35 per cent., from six to nine children, and 1.12 per cent., ten children or more.

As to the deaths, from 1861 to 1870 there were 23.2 deaths per thousand inhabitants; from 1871 to 1880, 22.5 deaths; from 1881 to 1890, 20.5 deaths; from 1891 to 1900, 19.2 deaths; from 1901 to 1910, 16.6 deaths; in 1911, 16.4 deaths; in 1912, 14.8 deaths, and in 1913, 14.5 deaths. There was, therefore, a decrease of nearly 0.7 per cent. in the mortality rate during the period between 1870 and 1910. The relative proportion of deaths among males and females has remained almost invariable during this period, there having been 52 per cent. of deaths among males, as compared with 48 per cent. among females. This fact is all the more remarkable when we consider that, since 1866, the number of men has been slightly inferior to the number of women throughout the total population. There were, in 1910, 496 men to 504 women in every thousand of inhabitants. The diseases that were responsible for approximately one half of the deaths (47.06 per cent.) were: diseases of the respiratory apparatus, 15.56 per cent.; organic diseases of the heart, 10.21 per cent.; old age or senile debility, 9.91 per cent.; pulmonary tuberculosis, 6.47 per cent., and cancer, 4.91 per cent. Epidemic diseases caused 6.59 per cent. of the deaths (whooping cough, 1.68 per cent., and measles, 1.49 per cent.) as compared with 9.15 per cent. for the period from 1903 to 1905; 8.28 per cent. for the period 1906 to 1910; 7.14 per cent. in 1911, and 7.57 in 1912. While the percentage of deaths from tuberculosis has remained almost stationary since 1903, it has been noted that the mortality caused by cancerous affections is still on the increase, having risen from 3.44 per cent., in 1903, to 3.89, in 1906; 4.19, in 1911; 4.78, in 1912, and 4.91, in 1913.

The number of deaths among infants under 1 year reaches, for certain years, almost a quarter of the total number of deaths. Although a decrease in mortality among infants under 1 year is noticeable, it is not so marked as it is in the general mortality. From 33,247 and 27,410, respectively, in 1900 and 1905, it had decreased in 1910 to 23,646. In 1911, doubtless owing to the great heat during the summer of that year, it rose to 28,608, while in 1912 and 1913 the record was 20,525 and 22,234, respectively, which corresponds, for these three years, to 16.55, 11.99 and 12.99 per cent., respectively, of the births.

Chlorinated Lime as a Bactericide for Raw Fruits and Vegetables

Before the Société de médecine of Ghent, the Misses Champion and Van de Velde recently presented the results of their investigations on the bactericidal action of chlorinated lime on raw fruits and vegetables, in which inquiry they gave special attention to the presence of *B. coli*, the most common type of pathogenic microbes, and to the number of bacteria. As is well known, chlorinated lime is a bactericide of a harmless nature and quite commonly employed of late in water systems; also widely utilized by the armies during the recent war for disinfection of drinking water. The investigations of Champion and Van de Velde confirm the satisfactory nature of the bactericidal action of chlorinated lime when used on fruits and vegetables. Strawberries, lettuce and carrots rinsed in a 0.2 per cent. solution of chlorinated lime are reasonably well disinfected, though not completely. After contact for half an hour with the same solution, *Bacillus coli* is destroyed and the number of bacteria is reduced to a very low figure, occasionally even to zero. The organoleptic prop-

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erties of taste and smell remain commonly intact, or at most are only slightly modified. These results constitute a useful contribution to the sum of knowledge of the hygiene of alimentation.

Congress of Medical Jurisprudence

The coming Congrès de médecine légale de langue française will open in Brussels, May 23. The meetings of the first two days of the congress will be held in the Palais des Académies at Brussels, under the chairmanship of Professor Héger-Gilbert. The meetings of the last two days are to take place in the University of Liége, under the chairmanship of Professor Stockis. The questions to be discussed fall into several groups. The first group will deal with various phases of criminology and with penitentiary organization (anthropology, psychiatric problems in penitentiaries, abnormal subjects, the criminal code). The second group of questions will deal with toxicology; poisoning by cyanids and the identification of alkaloids by means of spectrography. Traumatic shock and mechanical asphyxia will also be dealt with in special reports.

VIENNA

(From Our Regular Correspondent)

April 19, 1921.

Number of Students and Courses at the Vienna University

The official report of the Vienna University for the summer term of 1921 has just been published. The term will last from April 15 to July 15, and as regards the medical faculty, it will give would-be students an opportunity to select any course or class out of 472 that will be delivered at that time, against 448 a year ago. Twenty-nine ordinary professors (last term the figure stood at twenty-one), 135 (as against 113) extraordinary professors, and 157 (as against 152) privatdozents and assistants are devoted to the task of this instruction work. Two ordinary university institutes are vacant: the first clinic for gynecology and obstetrics, and the chair of medical chemistry. The number of ordinary medical students in the last winter term was 3,746, of whom 479 were females. A year ago the figure was 4,282, with 578 females among them. The number of medical students (ordinary and extraordinary, which latter are not entitled to come up for a diploma of graduation) was 3,957, with 498 females, while a year ago the figure was 4,529, with 600 females. Anyhow it is a fact that the number of students of medicine in Vienna has been declining for a year or two, owing no doubt to the economical and political difficulties, and perhaps also to the fact that many medical students took up another career.

Proposed Legal Protection of the Title of Specialist

The Vienna Medical Organization has been asked to settle once for all the thorny problem as to who should be entitled to be called specialist, and a special committee appointed for this purpose has just submitted its propositions to the profession. Professor Stransky, whose initiative in this point is mainly responsible for the text of the proposition, has tried to meet all justifiable demands and desires by the following principles: The title of specialist is to be granted only to a fully qualified doctor of medicine, and is to be protected in the same way as the title of M.D. by the state laws. Only these special disciplines should be recognized: internal medicine, surgery and orthopedics, pediatrics, neurology and mental diseases, ophthalmology, rhinolaryngology and otology, dermatology and venereology, gynecology and obstetrics, electropathology and radiology, dentistry. No man should be entitled to call himself a specialist for more than one discipline, except of course in case of those which belong together—for instance, neurology and mental diseases, otorhinolaryngology, and the like. A special commission consisting of representatives of the medical faculty, the government, the organization and the medical council should be formed which would have the right to grant permission for "license" of specialist to the applicant. He would have to satisfy the commission that he has been engaged for at least two years, or in the case of operative specialties for at least three years as assistant at a special clinic, or four years as a member of a staff of such clinic or hospital or ward. The commission will be entitled to examine the candidate both on the theory and on the practice of the selected specialty. Only after passing this examination successfully, will the doctor be allowed to practice as specialist. Naturally, all professors of the university, all directors of wards, all assistants of clinic and the privatdozents would be exempt from this examination; for the men already practicing as specialists, certain modifications of the regulations are of course necessary. Thus, no specialist practicing for at least two years before the publication of these new rules would have to come up for examination. Also those men, who, having obtained their diplomas at least four years before settling down as specialists, would bind themselves not to take up cases of general practice, might apply for exemption from the new examination. It is thought that these regulations would tend to improve the relations between the members of the profession by meting out to the specialist and the general practitioner that which is to be regarded as his own domain. Here, too, the proverb "clara pacta, boni amici" (clear compacts make good friends) holds good.

The War and the Medical Register

A publication of the statistical department of the Vienna board of health contains a few interesting figures relating to the number of new registrations of practitioners during the war. In the first months of the war, many physicians came to Vienna and the other big cities as refugees from the districts of the empire which the Russians had occupied. When in 1918 the empire broke to pieces and the newly formed states drove away all civil servants and physicians of German origin, they all flocked to Vienna, which now remained the only large city of the tiny Austrian state: the hydrocephalus of a dwarf. Thus in 1919 from August until the end of the year, 107 new physicians registered from other places, of whom fifteen still continue to practice now (at the end of 1920). In 1915, 104 new men came. Of these, twenty-eight are still here. The following two years show a slight influx of foreign physicians: altogether 109, of whom eighty-three remained permanently. But in 1918 the number went up to 256, with 161 men resolving to stay for good. Next year the number was 429. No less than 332 of these, or 80 per cent., have settled here definitely, while in 1920 the figure was a little more than 300, with 80 per cent. definite settlers. The prospects of the newcomers are not too rosy, and the older physicians find competition rather keen; for in spite of a decrease of the population of Vienna by more than 20 per cent. against 1919, the number of practitioners went up more than 30 per cent. There are now 4,120 physicians here, against 3,000 in 1919 in Vienna alone, 4,120 out of a total of 6,006 physicians in all of Austria.

Take your Pocket Card to Boston.

Marriages

GEORGE SEIPEL NELLIS, Turin, N. Y., to Miss Muriel S. Balfour of Watertown, N. Y., April 28.

SOLOMON W. SCHAEFER, Colorado Springs, Colo., to Miss Mabel Hutzler of Baltimore, May 8.

EDWARD KEARNEY SMITH, Millersville, Pa., to Miss Florence Dougherty, R. N., March 23.

JOHN FISHER GAINER, JR., Palatine, Ill., to Miss Mildred Smith of Chicago, May 14.

Deaths

Titus Munson Coan, New York; College of Physicians and Surgeons in the City of New York, 1861; a well known author and contributor to medical and literary periodicals; surgeon in Admiral Farragut's squadron, U. S. Navy, during the Civil War; founder, in 1880, and since director of the New York Bureau of Revision; died, May 8, aged 84.

Charles Winslow Dulles ⊕ Philadelphia; University of Pennsylvania, Philadelphia, 1875; at one time lecturer on history of medicine in his alma mater; a member of the Philadelphia Academy of Surgery and Pathological Society of Philadelphia; died, May 6, from heart disease, aged 70.

Harry Tutwiler Inge ⊕ Mobile, Ala.; University of the City of New York, 1883; founder of the Inge-Bondurant Sanatorium, Mobile; for many years chief surgeon of the Mobile and Ohio Railroad, and division surgeon for the Louisville and Nashville Railroad; died, May 11, aged 59.

John Cochran Graffin, Shiprock, N. M.; New York Homeopathic Medical College and Hospital, New York, 1895; captain, M. C., U. S. Army, and discharged, March 8, 1919; government physician on the San Juan Indian Reservation; died, May 9, aged 43.

Stephen Thomas Robinson, Edwardsville, Ill.; Vanderbilt University, Nashville, Tenn., 1881; a member of the Illinois State Medical Society; at one time president and vice president of the Madison County Medical Society; died, May 4, from diabetes, aged 63.

Robert Bolt Day, Pendleton, S. C.; Barnes Medical College, St. Louis, 1897; lieutenant, M. C., U. S. Army, and discharged, Dec. 2, 1918; mayor of Pendleton for four terms; died at Chick Springs (S. C.) Sanitarium, May 1, aged 47.

Edward O. Porter, Cornwall, Vt.; Castleton (Vt.) Medical College, 1859; surgeon of the Eleventh, and assistant surgeon of the Fifth Vermont Volunteer Infantry during the Civil War; died, May 6, from injuries received in a fall, aged 84.

Alveno Dorrance Ayer, Madison, Conn.; Indiana Eclectic Medical College, Indianapolis, 1881; a member of the local school board for twelve years; at one time health officer of Madison; died, May 5, following an operation, aged 69.

Leigh R. Gordon, Lexington, Ky.; Louisville (Ky.) Medical College, 1898; captain, M. C., U. S. Army, and discharged, Dec. 4, 1918, at one time coroner of Fayette County; died, May 8, from heart disease, aged 51.

Joseph F. Fox ⊕ Martinsburg, W. Va.; Eclectic Medical Institute, Cincinnati, 1887; died, May 5, from the effects of poison, self-administered, while suffering from carcinoma of the throat, aged 56.

Edmond Harris B. Steele, Deport, Texas; Hospital College of Medicine, Louisville, Ky., 1898; lieutenant, M. C., U. S. Army, during the World War; was shot and killed, March 30, aged 51.

Robert F. Slaughter ⊕ Tonganoxie, Kan.; Kansas City (Mo.) Medical College, 1882; at one time local surgeon for the Missouri Pacific Railroad; died, March 26, from heart disease, aged 62.

Niels Nicolai John Nelsen ⊕ Chicago; University of Illinois, Chicago, 1903; a member of the staff of the Norwegian-American Hospital; died, May 14, from arteriosclerosis, aged 43.

Edward Hamilton Martin ⊕ Hot Springs, Ark.; Medical College of Ohio, Cincinnati, 1887; president of the Mississippi State Medical Association in 1906; died, May 5, from angina pectoris, aged 55.

Burton Henry Jordan, Medicine Lodge, Kan.; College of Physicians and Surgeons, Kansas City, Kan., 1902; captain, M. C., U. S. Army, and discharged, Dec. 14, 1918; died, April 4, aged 53.

Edward Kirkland, Bellows Falls, Vt.; Hahnemann Medical College and Hospital of Philadelphia, 1886; a member of the Vermont State Board of Medical Registration; died, May 3, aged 60.

Leonidas H. Merritt ⊕ Forrest City, Ark.; University College of Medicine, Richmond, Va., 1896; at one time president of St. Francis County Medical Society; died, April 8, aged 51.

Rudolph Heym, Cleveland; Homeopathic Hospital College, Cleveland, 1876; a veteran of the Franco-Prussian War; at one time coroner of Wyandot County; died, May 8, aged 71.

Remus G. Elliott, Greenville, S. C.; Medical College of the State of South Carolina, Charleston, 1881; a member of the South Carolina Medical Association; died, May 8, aged 62.

James Willoughby Irwin, Philadelphia; University of Pennsylvania, Philadelphia, 1899; examining physician for the Philadelphia and Reading Railroad; died, May 2, aged 49.

Francis Henry Wisewell, Phelps, N. Y.; University of Michigan, Ann Arbor, 1871; also a druggist; at one time a member of the local school board; died, April 23, aged 77.

John Swancott, Los Angeles; College of Physicians and Surgeons, Los Angeles, 1917; lieutenant, M. C., U. S. Army, and discharged, May 27, 1919; died, March 9, aged 27.

James Francis Brady, Boston; Harvard University Medical School, 1901; a member of the Massachusetts Medical Society; died at West Newton, Mass., May 2, aged 47.

William Beer Graham, Waterloo, Iowa; Missouri Medical College, St. Louis, 1886; died at the Iowa Methodist Hospital, Des Moines, Iowa., May 2, aged 59.

Bradford Allen ⊕ Nashua, N. H.; Harvard University Medical School, 1883; a member of the Massachusetts Medical Society; died, May 2, aged 63.

James Dennis Vincent Sheehan ⊕ Syracuse, N. Y.; Syracuse (N. Y.) University College of Medicine, 1917; died, April 28, from pneumonia, aged 36.

Andrew Jackson Crosby Saunier, Los Angeles; University of Michigan, Ann Arbor, 1881; at one time a resident of Chicago; died, May 1, aged 63.

Frank C. Boone, Merom, Ind.; University of Louisville, Ky., 1893; a member of the Indiana State Medical Association; died April 30, aged 60.

Mathew C. McDonnell, Bad Axe, Mich. (license, Michigan, 1900); a member of the Michigan State Medical Society; died, March 22, aged 70.

Oliver T. Everhart, Hanover, Pa.; University of Maryland, Baltimore, 1856; a practitioner for more than sixty years; died, April 30, aged 88.

Edward S. Frost, Minneapolis; University of Pennsylvania, Philadelphia, 1868; a veteran of the Franco-Prussian War; died, May 3, aged 77.

Martin Luther Wolford ⊕ Harrisburg, Pa.; Jefferson Medical College, Philadelphia, 1880; died, April 29, from cerebral hemorrhage, aged 68.

William Dickison Brown ⊕ Carthage, Mo.; Missouri Medical College, St. Louis, 1884; died, May 3, from heart disease, aged 59.

Franklin Wallace Edwards, Southbridge, Mass.; Rush Medical College, 1876; died in Worcester, Mass., April 29, aged 64.

William G. Cochran, Los Angeles; Calif.; Rush Medical College, 1869; a veteran of the Civil War; died, May 4, aged 77.

Christian C. Vedder, St. Johnsville, N. Y.; Albany (N. Y.) Medical College, 1873; died, May 1, from nephritis, aged 76.

Cordelia Williams, New York; New York Medical College and Hospital for Women, New York, 1878; died, April 29.

John A. Coe ⊕ Brandywine, Md.; College of Physicians and Surgeons, Baltimore, 1887; died, February 28, aged 56.

Siegismund Breitenfeld ⊕ New York; German University of Prague, Austria, 1882; died, April 28, aged 63.

Benjamin R. Peltz, Philadelphia; University of Pennsylvania, Philadelphia, 1867; died, April 28, aged 78.

Leo J. Hines, Providence, R. I.; College of Physicians and Surgeons, Baltimore, 1905; died, May 2, aged 40.

Thomas B. Goodman, Cobden, Ill.; University of Illinois, Chicago, 1884; died, May 1, from heart disease.

Charles E. Pugh ⊕ Winfield, Kan.; Medical College of Ohio, Cincinnati, 1884; died, April 23, aged 61.

Addison W. Goodale, Watertown, N. Y.; Albany (N. Y.) Medical College, 1858; died, April 27, aged 89.

William J. Hoadley, Danville, Ind.; Medical College of Ohio, Cincinnati, 1866; died, May 1, aged 90.

George Arthur Cartwright, McKees Rocks, Pa.; University of Pittsburgh, 1909; died, April 26, aged 40.

John Francis Snyder, Virginia, Ill. (license, Illinois, years of practice, 1901); died, April 30, aged 91.

Emza E. Ward, Sesser, Ill.; Missouri Medical College, St. Louis, 1890; died, about April 30, aged 57.

Hillel Solotaroff, New York; University of the City of New York, 1891; died, April 30, aged 55.

⊕ Indicates "Fellow" of the American Medical Association.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

TEKARKIN

Edward Percy Robinson's "Cure" for Cancer

From various parts of the country THE JOURNAL has received a 16 page pamphlet, *Therapeutic Leaves*. The publication, which has a saffron colored cover, is said to be published by the National Bio-Chemical Laboratory, Mount Vernon, N. Y. The National Bio-Chemical Laboratory seems to be a style used by Dr. Edward Percy Robinson. The "editorial offices" of *Therapeutic Leaves* are given as "501 Knox Bldg., 5th Ave. at 40th St., New York," which is a roundabout way of describing 452 Fifth Ave., the office address of Edward Percy Robinson. The first number (February, 1921) of *Therapeutic Leaves* gives the names of the "editors" as "E. P. Robinson, M.D., and W. A. Jenner, B.A." In addition, there is "Assistant Editor, F. J. Geiger," and "Gen'l Manager, Beverly K. Robinson." The first and second numbers of *Therapeutic Leaves* (February and March, 1921) are practically identical, being evidently printed from the same plates. *Therapeutic Leaves* purports to be a periodical published as "a medium for the dissemination of knowledge pertaining to therapeusis." Actually it is an advertising medium dealing with the products of the National Bio-Chemical Laboratory: "Osmo-Calcic Solution," "Tekarkin" and "Osmotic Mangano-Potassic Solution."

Reproduction (reduced) of some advertising matter issued in 1914 when Edward Percy Robinson was specializing in "facial contouring."

These three preparations are said to be the "formulas" of Dr. Edward Percy Robinson who lives in Mt. Vernon, N. Y., and has an office at 452 Fifth Ave., New York City. They are used by Dr. Robinson in the treatment of cancer. At an earlier stage they seem to have been known under different names: "Tekarkin" was first "Hypotonic Sal-Cella" and then "Neoanabolin-X; "Osmo-Calcic Solution" was "Osmotonic Calcic" while "Osmotic Mangano-Potassic Solution" was "Osmotonic Drops." The three solutions are put up in one package containing 4 c.c. (about 65 minims) of "Tekarkin" and one ounce each of the other preparations. The package sells for $10.00. "Remittance with order. . . . We have no agents."

Most of the material in *Therapeutic Leaves* is a rehash of four papers published by Edward Percy Robinson in the New York *Medical Record* of various dates between September, 1917, and July, 1920. In these Robinson advances the theory that cancer is caused by an excess of sodium chlorid (table salt) in the blood and tissues and that it can be cured by administering a solution of potassium nitrate. Such a treatment sounds ideally simple. One might assume that all that was necessary was to make up a solution of potassium nitrate and inject it. One might further wonder how it would be possible to commercialize such a "treatment." "Homemade solutions," says Dr. Robinson, "are apt to be disappointing." Their use is likely to cause "considerable swelling at the site of an injection, accompanied with tenderness and some heat." Moreover, "a wide hyperemic area with red blotches has been observed in a number of instances." In order to avoid "accidents of this sort" which would "bring discredit upon an excellent agent," Dr. Robinson, "after considerable experimental work" has obtained "a solution of this chemical which would meet the ideal requirements." This is available under the name "Tekarkin." Dilute potassium nitrate solution sold under the name "Tekarkin" sells for $67 an ounce. The physician can make his own solution, of the purest and highest grade potassium nitrate on the market, at an expense, for the chemical, not exceeding 5 cents an ounce.

Therapeutic Leaves also contains the usual number of those "clinical reports" which bulk so large in the literature of "cures" for cancer. Then there is a full page advertisement of a side-line of the National Bio-Chemical Laboratory: "Vitamines (Compressed) Tekarkin Brand" "They have a meaty taste."

The medical profession, naturally, is interested in knowing more about the physician who admits that he has discovered the cause and cure of cancer. According to our records Edward Percy Robinson was born in 1871 and was graduated in 1897 by Bellevue Hospital Medical College. He was licensed in New York State the same year and has practiced in New York City continuously since that time. He is not, and apparently never has been, a member of his local medical society.

In 1914 Robinson was specializing in "facial contouring." One piece of advertising purports to be the reprint of an interview with "Dr. E. P. Robinson, Specialist, as he sat in his office at 116 West 39th Street, having questions fired at him by the reporter." Thus, Dr. Robinson:

> "There are physicians everywhere who abandon the general, or family practice of medicine, to devote their life to some specialty. My specialty is the improvement of the facial features and the beautifying of the shoulders, neck and arms. I round out hollow cheeks, build up the neck, eradicate wrinkles, make irregular noses perfect and remove defects by a process which is my own secret. I claim no superhuman power or ability; I have simply bent my whole professional study and energy to the one line of remodeling—so to speak—the human features, and I employ only scientific methods and aids in my operations."

In another piece of advertising, a little booklet bearing Edward Percy Robinson's name, we find the following:

> "This is what I accomplish. . . .
> "Remove all wrinkles and traces of age from the forehead, or about the eyes and mouth. Lift sag from cheeks and chin.
> "Round out hollow cheeks.
> "Remove depressions and defects from the chin.
> "Build up the neck and shoulders.
> "Build up and enlarge the bust.
> "Round out and give symmetry to unshapely arms and remove the lines of age from the hands.
> "Correct many of the defects not mentioned here, but which may be possessed by exceptional cases."

Still another advertising leaflet purports to be a reprint of an "editorial" from the *Mercantile and Financial Times* of March 11, 1914. It is a pretentious puff of Robinson, telling about his "scientific attainments" and his marvelous secret preparations used in "Youthifying the Face." The *Mercantile and Financial Times* is an utterly discredited sheet run for the purpose of selling what appear to be editorial comments. Such "editorial" puffs are paid for through the purchase of a certain number of copies of the paper by the party who desires the publicity. The Associated Advertising Clubs of the World exposed this publication in a special bulletin issued in June, 1919, and described it as an "example of publications that serve as convenient tools of fake promoters." In 1911

the *Mercantile and Financial Times* published an "editorial" endorsement of the consumption cure "Nature's Creation." It has done the same for a fakish device known as the "Ideal Sight Restorer." It published a puff on the "Oxypathor," a swindle so preposterous that the exploitation of this "gas-pipe" fake was debarred from the U. S. mails and its exploiter was sent to the federal penitentiary.

We also find in our files a testimonial signed E. P. Robinson, M.D., 1402 Broadway (Edward Percy Robinson's address in 1912) extolling the virtues of a foolish piece of quackery, the obesity cure "Get Slim." This nostrum was exposed in THE JOURNAL some years ago and was also exposed by Dr. Wiley in *Good Housekeeping*. The "Get Slim" concern sued *Good Housekeeping* for libel but a jury decided that *Good Housekeeping* had told the truth. In the "Get Slim" testimonial Robinson is quoted as saying that he is "acquainted with the ingredients entering into its manufacture" and he describes it, as did the "Get Slim" concern, as "a purely vegetable combination." The fact is the Association's chemists found this "purely vegetable combination" to consist of sugar and tartaric acid, each colored pink, and baking soda.

And this is the gentleman who claims to have discovered the cause of, and offers for sale a cure for, one of the most

The Jean Downs Co.,
New York.

My dear Mrs. Downs,

The package of your "Get Slim" remedy for obesity has been given to a patient of mine with beneficial results.

In observing the action of the remedy I noted no laxative effect on the bowels, or any disturbance of the stomach.

In fact, there were no physical sensations that any remedy had been taken and there was a very satisfactory reduction in weight.

"Get Slim" remedy, being a purely vegetable combination, is not fraught with any risk to the individual's health and may be safely given.

I would not hesitate to prescribe it for a child suffering from obesity.

This statement is based on the fact that I am acquainted with the ingredients entering into its manufacture.

I would add that this remedy for obesity might be introduced to the regular physicians with some advantage to you.

Yours truly,
E P ROBINSON M D
1402 Broadway

Reproduction (reduced) of a testimonial for an obesity cure fake, "Get Slim." The A. M. A. chemists reported that this "vegetable combination" consisted of baking soda and pink-tinted tartaric acid and sugar.

baffling scourges known to modern medicine—cancer. Except for the articles that have been published during the past three years in the *Medical Record*, we are unable to find anywhere in representative medical literature anything to indicate that Edward Percy Robinson can lay any claim to special knowledge of, or skill in the treatment of, cancer. What we do find are advertisements describing Edward Percy Robinson's alleged abilities as a "face beautifier," puffs from utterly uncritical or discredited sources and a testimonial to the value of a preposterous "fat cure" fake.

With the best brains of the world at work on the problem of cancer, it is reasonable to assume that any man who has found out even a little more than has previously been discovered or is able to accomplish even a little better results than the average in the treatment of this dreaded disease, would be well known to scientific medicine.

After this article was in type physicians began sending in No. 3 (April, 1921) of *Therapeutic Leaves*. This is still another reprint of Nos. 1 and 2, with minor changes. In the first two Tekarkin is described as "a solution of potassium nitrate of special strength;" in No. 3 it becomes "a special solution containing potassium nitrate." In Nos. 1 and 2, Robinson described an alleged case of "Cancer of the Rectum *Treated* with Tekarkin." In No. 3 this becomes "Medicinal Treatment *Cures* Cancer of the Rectum." In No. 3 the names of the editors, assistant editor and general manager are eliminated.

The inside back cover of No. 3 contains an advertisement of Tekarkin, in which physicians are warned that "Cancer of the Lung May Present the Diagnostic Signs of Tuberculosis." It contains the further startling information that the particular micro-organism responsible for pulmonary tuberculosis is the Klebs-Loeffler bacillus! Thus:

"The Klebs-Loeffler bacillus may find a suitable habitat in a malignant area of lung tissue and thrive therein. The presence of the bacillus does not necessarily exclude the presence of cancer. A chronic cough with blood-streaked sputum may be the result of tuberculosis and **cancer.**"

Correspondence

"THE MARTIN LUTHER OF MEDICAL EDUCATION"

To the Editor:—In your editorial of April 23, on "The Martin Luther of Medical Education," you call attention to the apparent lack of interest the University of Pennsylvania took in a movement toward better medical education in 1835, suggested by the Medical College of Georgia. I have consulted the minutes of the faculty of the School of Medicine of the University of Pennsylvania during the period from 1830 to 1840 to see whether any light could be thrown on this subject, and I find that at a meeting of the faculty held, Oct. 17, 1835, "The faculty postponed for future consideration the proposal of May 19, 1835, of the Augusta College, Georgia, to hold a medical convention for the purpose of instituting certain general regulations for the conferring of medical degrees."

I believe that this must refer to the letter sent out by the Medical College of Georgia in May, 1835, suggesting the "calling a convention of delegates from all the colleges in the Union to devise some general plan and adopt a system of education which should be uniform throughout the United States." I cannot find any further mention of this matter in the minutes of the faculty.

The Medical College of Georgia, in Augusta, was organized in 1829. In the minutes of the faculty of the University of Pennsylvania under date of March 19, 1831, appears the following:

"Certain documents under date of Dec. 30, 1830, from the Medical Academy of Augusta in Georgia were presented, requesting the extension of the ad eundem privilege to their course of lectures. Refused, and the dean instructed to inform them of the same."

Apparently the faculty of the University of Pennsylvania was not satisfied that this young school in Georgia could be fully credited and its students accepted on an equal footing to the classes of the School of Medicine of the University of Pennsylvania. Perhaps, therefore, when the request for the convention arrived a few years later, the faculty of the University of Pennsylvania may have felt that the suggestion made by the Medical College of Georgia was somewhat presumptuous. A more probable reason is that during the year 1835 many changes were taking place in the faculty of the School of Medicine of the University of Pennsylvania. The chair of materia medica, occupied by John Redman Coxe since 1818, was declared vacant after a squabble during which much hard feeling was engendered. It has been facetiously called the "University's attack of Coxalgia." George B. Wood was elected to fill the vacancy the same year. Jackson was also elected in 1835 to the chair of the institutes of

medicine or physiology, as it is now called, and Hugh Hodge succeeded William P. Dewees the same year in the chair of midwifery.

That the faculty was, however, deeply interested in the question of improving the conditions of medical education in this country is very apparent when we consider several entries made in the minutes about that time. Thus, Jan. 4, 1836, appears the following:

"The Medical Faculty of the University of Pennsylvania, having duly received from the trustees of that institution their resolution of the sixth of October last inquiring whether any extension in the plan of instruction or any alteration therein be expedient, are induced most respectfully to represent that the great mass of the medical students in the United States are mainly desirous to obtain a lucrative and respectable practice with the utmost possible economy of time, money and application. That agreeably to experience the only requisites for the attainment of the objects in view are the diploma of a respectable medical school, and sufficient ability, cultivation and acquirements to satisfy the expectations of the communities in which they intend to seek for employment. Unfortunately for national reputation, the standard of expectation with respect to collegiate acquirements is on this side of the Atlantic too low; not only in medicine but in all other professions and pursuits. Those who have sons to educate hurry them into college, and as prematurely remove them from their studies, in order that they may engage in some profitable vocation. The faculty are under the impression that the heads of our American colleges in general, and especially those who preside over the University of Pennsylvania, have been extremely desirous to elevate the standard of acquirement necessary both for entrance and graduation in the arts; and yet it is well known that there has been a limit assigned to success by circumstances wholly out of their control. It ought not, then, to surprise those who have become familiar with the obstacles which impede every effort to improve that branch of education, if the faculty should lay some stress on the existence of similar difficulties in effecting any desirable enlargement in the qualifications requisite for a degree in the branch in which the trustees have appointed them to be instructors. . . . No examination being requisite to entrance on the list of matriculants, students generally commence their attendance on the medical lectures with inadequate preliminary acquirement. . . . However mortifying may be the impression, it is quite evident to the faculty that the basis of American education is in general too narrow for the superstructure contemplated by the present plan of medical instruction, and they infer that no scheme of improvement can be consistent which does not have a view to the foundation. The faculty are disposed to believe that at present there is but one means of melioration within the control of the university. They allude to the examination of the candidates for degrees, but they conceive that any power derived from this source, if exerted with peculiar severity, might have the sphere of its beneficial employment diminished to a fatal extent. In making choice of his alma mater, the student balances between the reputation of the school and the difficulty of obtaining its diploma, and in order to render the attainment of this object more sure, too often decides in favor of the inferior institution. Were the reputation of the seminaries of medical education in proportion to the rigor of their examinations, there would be no difficulty in giving any desirable elevation to this criterion of merit, but unhappily the fame of a school is unduly influenced by the number of its matriculants; hence any efforts to enhance the qualifications necessary to our degrees by reducing the number of our pupils tends to lower the comparative estimation of our diploma. This consequence must evidently proceed in an increasing ratio, since our loss is the gain of rival seminaries, and the diminution of numbers experienced in the first year tends to aggravate the cause of diminution in the year following. The mode of conducting examinations for degrees, and the great scheme of medical education, the faculty are extremely anxious to improve, while at the same time they are diffident in venturing on untried plans, and apprehensive of the loss of weight which is always consequent to every appearance of vacillation. Should they be enabled after the most attentive examination of the subject to devise any change which they can confidently recommend, they will forthwith submit it to the trustees. The medical faculty believe that the recent appointments in the medical departments are producing a very beneficial influence and presume that after the present organization has been in operation for a sufficient length of time to have its influence duly appreciated they will be better enabled to suggest improvements to the trustees. The faculty have it under consideration to extend their lectures one month. Should they decide in favor of such an extension they hope the trustees will sanction the change; but otherwise, in obedience to the foregoing considerations, the medical faculty, with the utmost respect and deference for the board of trustees, beg leave to declare their opinion that any extension in the plan of instruction in the medical school of the university, or any alteration therein, is, in their opinion, inexpedient under existing circumstances."

Again, at a meeting held Nov. 12, 1836, "It was resolved that the course of lectures be extended to five months, that this resolution be communicated to the students, and that the sense of the class be taken whether the plan shall be carried into effect during the present session."

It is interesting to learn that the students unanimously voted in favor of continuing the lectures for an additional month.

It must also be remembered that when, in 1846, in accordance with the earnest recommendation of the American Medical Association, the University of Pennsylvania extended its session of medical studies to six months, not a single other school followed its example; after six years of this attempt to fight single handed the growing degeneracy of the American system of medical education, the University of Pennsylvania, I am sorry to admit, relapsed on account of steadily diminishing classes to the level of her less courageous rivals.

William Pepper, M.D., Philadelphia.
Dean, University of Pennsylvania
School of Medicine.

"POSTURAL REST FOR PULMONARY TUBERCULOSIS"

To the Editor:—In The Journal, March 26, appeared an article on this subject by Drs. Webb, Forster and Gilbert. I heartily agree with what they say in general about rest in the treatment of tuberculosis, but when they advise that weights be placed on the chest in cases in which both upper lobes are about equally involved, I fail to see by what queer ratiocination they conclude that such a procedure would afford greater rest to the lungs.

In fact, according to my ideas of physiology, it seems about as sensible as putting stones in a suit case to make it lighter. Whatever weight is placed on the chest means that the respiratory muscles must lift this weight some 25,000 to 35,000 times a day—quite a bit of unnecessary labor. This involves more oxygen for these muscles, which in turn can only mean more work for the lungs and heart—the direct opposite of what they seek to accomplish.

As to the advisability of requiring a patient to lie twenty hours or more a day on one side, it seems quite unnecessary and unjustifiable to subject patients to such an inhuman routine, when even the authors concede that equally good, if not better, results can be obtained by artificial pneumothorax in a much shorter time. In cases in which it is impossible to administer artificial pneumothorax, let us give the method a trial; but why put the average patient on an uncomfortable freight train for his journey back to health, when a Pullman express is at hand?

McDugald McLean, M.D., Asheville, N. C.

[The letter of Dr. McLean was referred to Dr. Gerald B. Webb, Colorado Springs, who replies:]

We cannot agree with a physiology of respiration which regards the thorax as an absolutely rigid machine, forced to perform a predestined excursion regardless of circumstances. The amount of respiratory motion necessary to aerate the

circulation of a resting patient is small; the instinctive tendency is to breathe unnecessarily deep. This tendency is checked by the bags of shot which we lay on the upper chest. Instead of struggling to lift them as high as possible, the patient unconsciously yields, brings his breathing down nearer to the requisite minimum, and transfers it in large measure to the diaphragm, that is, to the lower lobes, which are almost invariably less diseased than the upper, as Dr. McLean is no doubt aware.

It is surely a fallacy to suppose that the respiratory act is incapable of modification. Not only can it be reduced in amount, but it can be altered in type also. It is well known that constriction of the abdomen reduces diaphragmatic and increases intercostal breathing; that tight strapping of one side of the chest results in reducing the motion of that side, while compensation takes place on the other side, to whatever extent is necessary; and we have demonstrated that the same sort of modification and transference can be achieved by posture, and—though less perfectly—by the pressure of weights.

Thus, there are two things which we accomplish by the methods described in our paper: first, the reduction of respiratory motion to the necessary minimum; second, the shifting of respiration, to a great extent, from the more diseased to the less diseased area—from a diseased right lung to a normal or nearly normal left, from diseased apexes to relatively healthy bases.

Postural rest has by no means outlawed artificial pneumothorax from our practice. But for many bed patients we regard it as an improved method of securing the same results without the unavoidable risks which pneumothorax involves, even in the most skilful and experienced hands.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

DERMATOLOGIC CASE FOR DIAGNOSIS

To the Editor:—A girl, white, aged 18, a farmer's daughter, living on the farm, is one of nine children, all well, some older, some younger than herself. Her family history is negative in every respect. There is no history of tuberculosis. The parents' blood Wassermann reaction is negative. The patient was of normal birth. She had the usual diseases of childhood, with good recovery. She has not been ill, nor has she had any medical attendance since the age of 11. Menstruation began at 13, and is regular, painless and normal. About seven months ago, she "had fever, and felt bad" for three days. A physician was not called. Two days later, a blue area, the size of a silver dollar, of the appearance of a severe bruise, appeared on the outer surface of the left upper arm. It was painless. A physician was called, and he pronounced the lesion a bruise, advising that it be left alone and stating that it would be well in a few days. The patient felt well at that time. There was no fever. However, the "bruise" increased in size; its edges became red and indurated; the central portion became black, dry and tough as leather. Separation occurred at the edges, and pus exuded. The central portion gradually sloughed out, leaving a deep indurated ulcer, resembling a varicose ulcer, which healed very slowly, leaving a large, red, slightly elevated scar. At the same time, other blue spots appeared on other parts of the body, and proceeded through the same stages of development as the first ulcer. About thirty such ulcers have formed in the last seven months. They have varied in size from that of a dime to 5 inches in diameter, occurring mostly on the extremities. She now has an ulcer, about 4 inches in diameter, but not as deep as the others, on the right cheek, and one on each ankle, one below the left knee, two on the anterior surface of the left thigh, one on the lateral surface of the right thigh and one on each forearm. Since the appearance of the ulcers all the lymph nodes have enlarged, but they are painless. The ulcers have raised, red, irregular, slightly elevated margins; they are roundish in outline; the central slough is dry, black and tough. They are painless, except during dressings, but even then they are not markedly painful. There is a very slight discharge. The patient feels "fine," has no temperature elevation; her appetite is good; there is no loss of weight; the color is normal. She is cheerful, ruddy, plethoric, robust, and well developed physically and sexually. Her height is 5 feet, 4 inches; weight, 147 pounds. Her frame is heavy, with big bones. The hands and feet are large. There is a slight tendency to obesity, and the texture of the skin and the distribution and texture of the hair, together with the stolid type of the patient suggests a mild degree of thyroid insufficiency. Except for the ulcers and the adenopathy, physical examination is negative. There is no urethral or vaginal discharge and no apparent abnormality of the genital tract. The blood Wassermann reaction is negative; hemoglobin, 95 per cent. (Sahli); erythrocytes, 5,200,000; leukocytes, 11,200 (14,000 for the last two weeks). Differential count: polymorphonuclears, 76 per cent.; small lymphocytes, 17 per cent.; large lymphocytes, 4 per cent.; eosinophils, 3 per cent. The urine is repeatedly negative for sugar and albumin; the specific gravity averages about 1.020; the quantity, about 1,200 c.c. in twenty-four hours. Smears from the ulcers repeatedly show a gram-negative diplococcus, and when the smear is made directly after removal of the slough, no other organism is present. The diplococcus is bean-shaped; it resembles the gonococcus, but is not intracellular. All the cultures made have shown staphylococci and streptococci, but no diplococci.

The closest approach to a description of the lesion I have found is Stelwagon's description of the lesions in dermatitis gangrenosum in infants. Treatment has consisted of the gradual removal of the sloughs and the application of stimulating dressings to encourage healing of the ulcers. However, new ulcers form continually in spite of treatment.

Does the gonococcus ever cause such lesions? If not the gonococcus, what organisms might this be? What method would you advise to demonstrate the causative organism? Is there anything in the literature bearing on the treatment of such a case? Please omit my name.

M. Q. E., Mississippi.

ANSWER.—There is little doubt that this is a case of self-inflicted eruption. The lesions begin as purply spots and develop into dry, necrotic masses. It is possible that such lesions might occur from septic emboli, but in such a case the patient would undoubtedly be unmistakably ill. Local infections would hardly begin as deep purply spots that were not recognizable as boils, and they too would be accompanied by other symptoms of infection. The case is typical of a group of cases that dermatologists frequently recognize, and which, as a rule, escape detection until the specialist in skin diseases sees them. The first one appeared on the left arm, the easiest point for the patient to produce injury with the right hand. They have appeared unaccountably at other locations, doubtless all where they could be readily produced by the patient herself. There are probably none of them between the shoulders or on the back, where it would be difficult for the patient to produce them herself. They get well like simple wounds. The trouble is that new ones are constantly occurring. The patient is a typical one for such a trouble; a stolid girl living on a farm, probably lonely and overworked, and unconsciously feeling the lack of associates. She probably has stigmas of hysteria; the patients nearly always have anesthesia of the pharynx and of the bulbar conjunctiva.

It is possible that such ulcers might be produced by something else, but a disease with symptoms so severe in the skin without any disturbance of the general health would be extremely rare. This, of course, is a long distance opinion; but the case should be carefully worked out from the standpoint of malingering. The patients will almost never admit their part in the production of the lesions, but they deny it in a stolid, evasive way that is characteristic. The family, and often also the family physician, are usually astonished and often indignant at the suggestion. The only way to prove it is to fix the patient so that he cannot produce the lesions without detection. When this is done the patient usually will be discovered trying to produce lesions, and if he cannot do so, they will cease occurring.

NO DEDUCTION FROM INCOME TAX FOR EXPENSE OF GRADUATE MEDICAL WORK

To the Editor:—Is it true that, if a physician studies abroad, a portion or all the expense thereof may be deducted from his reported income for the income tax? If so, what formality is it necessary to go through in order to obtain this deduction?

J. R. Y.

ANSWER.—Expenses acquired in training and education for professional work are regarded by the Internal Revenue Bureau as an investment and not as a current expense. Deduction from one's gross income in estimating the income tax, of money spent for postgraduate work, either in this country or abroad, is not allowed.

ERUPTION AFTER LUMINAL

To the Editor:—I wish to find out whether or not luminal has been reported as producing urticaria or a scarlatinal rash as an untoward symptom.

T. J. BILLION, M.D., Sioux Falls, S. D.

ANSWER.—According to Seifert, luminal has been reported by two authors as producing an exanthem simulating urticaria; by two others an eruption simulating measles; by three as simulating scarlet fever, and by two as an unclassified drug eruption.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALABAMA: Montgomery, July 12. Chairman, Dr. Samuel W. Welch, Montgomery.

ARIZONA: Phoenix, July 5-6. Sec., Dr. Ancil Martin, 207 Goodrich Bldg., Phoenix.

CALIFORNIA: San Francisco, June 27-30. Sec., Dr. Charles B. Pinkham, 727 Butler Bldg., San Francisco.

COLORADO: Denver, July 5. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.

CONNECTICUT: Hartford, July 12-13. Sec., Regular Board, Dr. Robert L. Rowley, 79 Elm St., Hartford

CONNECTICUT: New Haven, July 12 Sec., Homeopathic Bd., Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven.

DELAWARE: Wilmington, June 21-23. Sec., Dr. P. S. Downs, Dover.

FLORIDA: Jacksonville, June 13-14. Sec., Reg. Bd., Dr. William M. Rowlett, Citizens Bank Bldg., Tampa.

GEORGIA: Augusta, June 1-3 and Atlanta, June 8-10. Sec., Dr. C. T. Nolan, Marietta.

ILLINOIS: Chicago, June 20-23. Supt. of Registration, Mr. F. C. Dodds, Springfield.

INDIANA: Indianapolis, July 12-14. Sec., Dr. Wm. T. Gott, 84 State House, Indianapolis.

IOWA: Iowa City, June 9-11. Sec., Dr. Guilford H. Sumner, Capitol Bldg., Des Moines.

LOUISIANA: New Orleans, June 9-11. Sec.Treas., Reg. Bd., Dr. Roy B. Harrison, 1551 Canal St., New Orleans.

MAINE: Augusta, July 5-6. Sec., Dr. Frank W. Searle, 140 Pine St., Portland.

MASSACHUSETTS: Boston, July 12-14. Sec., Dr. Walter P. Bowers, Room 144, State House, Boston.

MICHIGAN: Ann Arbor, June 14. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

MINNESOTA: Minneapolis, June 7-9. Sec., Dr. Thomas S. McDavitt, 539 Lowry Bldg., St. Paul.

MISSISSIPPI: Jackson, June 21-22. Sec., Dr. W. S. Leathers, University.

MISSOURI: St. Louis, June 13-15. Act. Sec., M. E. Holliway, State House, Jefferson City.

NATIONAL BOARD OF MEDICAL EXAMINERS, Boston, June 14-21. Sec., Dr. J. S. Rodman, 1310 Medical Arts Bldg., Philadelphia.

NEBRASKA: Lincoln, June 7-9. Sec., Dept. of Public Welfare, Mr. H. H. Antles, State House, Lincoln.

NEW JERSEY: Trenton, June 21-22. Sec., Dr. Alexander MacAlister, State House, Trenton.

NORTH CAROLINA: Raleigh, June 21. Sec., Dr. Kemp P. B. Bonner, Morehead City.

NORTH DAKOTA: Grand Forks, July 5-8. Sec., Dr. G. M. Williamson, Grand Forks.

OHIO: Columbus, May 31-June 3. Sec., Dr. H. M. Platter, State House, Columbus.

OREGON: Portland, July 5-7. Sec., Dr. Urling C. Coe, 1208 Stevens Bldg., Portland.

PENNSYLVANIA: Philadelphia and Pittsburgh, July 5-9. Sec., Mr. Thomas E. Finnegan, State Capitol, Harrisburg.

RHODE ISLAND: Providence, July 7-8. Dr. Byron U. Richards, State House, Providence.

SOUTH CAROLINA: Columbia, June 28. Sec., Dr. A. Earle Boozer, 1806 Hampton St., Columbia.

TENNESSEE: Memphis, Nashville and Knoxville, June 10-11. Sec., Alfred B. De Loach, 1001 Exchange Bldg., Memphis.

TEXAS: Austin, June 21-23. Sec., Dr. Thomas J. Crowe, 918-919 Dallas Co. Bank Bldg., Dallas.

VIRGINIA: Richmond, June 14-17. Sec., Dr. J. W. Preston, 511 MacBain Bldg., Roanoke.

WEST VIRGINIA: Charleston, July 12. State Commissioner of Health, Dr. L. T. Vinson, Masonic Bldg., Charleston.

WISCONSIN: Milwaukee, June 28-30. Sec., Dr. J. M. Dodd, 220 E. Second St., Ashland.

WYOMING: Cheyenne, June 6-8. Sec., Dr. J. D. Shingle, Citizens National Bank Bldg., Cheyenne.

REPORT OF THE TENTH EXAMINATION OF THE NATIONAL BOARD OF MEDICAL EXAMINERS

The tenth examination of the National Board of Medical Examiners was held in Minneapolis and Rochester, Minn., Feb. 23, to March 2, 1921. The written examinations were held simultaneously in the two places. The subjects of the examination and the relative value of each were: anatomy, 100; physiology, 75; chemistry, 75; pathology, 75; bacteriology, 50; materia medica, pharmacology and therapeutics, 75; medicine, 200; surgery, 200; obstetrics and gynecology, 75; hygiene and sanitation, 50; medical jurisprudence, 25. A percentage of 75 was required to pass. Falling below 65 per cent. in two subjects, or below 50 in one subject, constituted a failure.

There were twenty applicants who applied for examination. Seventeen were found to have the essential preliminary and medical qualifications. Sixteen appeared for examination, of whom eleven passed and five failed.

PASSED

Name	College	Year of Graduation
Charles Cullom Gault,	University of Minnesota	1921
Thomas Byrd Magath,	University of Illinois	1920
William P. Finney,	Johns Hopkins Medical School	1916
James Joseph Noonan,	Rush Medical College	1919
Charles Wesley Barrier, Jr.,	Tulane University School of Med.	1917
Alfred Sabato Giordano,	Syracuse University Medical College.	1920
Malcolm C. Pfunder,	Rush Medical College	1920
Albert John Scholl,	Harvard Medical College	1916
James Chester Brogden,	University of Maryland Med. College	1914
Andrew Jackson Goodwin,	Univ. of Pennsylvania Med. School.	1915
Louisa Elizabeth Boutelle,	University of Minnesota	1916

FAILED

George Washington University School of Medicine	1908
University of Minnesota School of Medicine	1920
University of Pennsylvania School of Medicine	1920
University of Minnesota School of Medicine	1919
University of Minnesota School of Medicine	1916

AVERAGES OBTAINED *

Candidate by Number	Anatomy; Value, 100	Chemistry; Value, 75	Mat. Med., Pharm. and Therapeutics; Value, 75	Obstetrics and Gynecology; Value, 75	Hygiene; Value, 50	Medicine; Value, 200	Surgery; Value, 200	Pathology; Value, 75	Physiology; Value, 75	Bacteriology; Value, 50	Medical Jurisprudence; Value, 25	Final Average
1	95	61	79.5	75	86	83	81	80.36	87	83.5	77	811.4
2	77	94	82	97	90	69.5	66.35	62.66	80	79	77	764.2
3	75	59	87	82	84	73.5	89.3	65	82	68.5	88	779.8
4	90	60	85	76	81	85.5	84.5	96	90	91	74	840
5	90	98	92	85	75	80.5	85.7	91.66	96.5	85.5	84	870.9
6	85	64	76	75	87	86.5	79.75	81.2	84	80.5	76	805.3
7	74	68	80	75	77	67.5	85.35	76.5	75	65	66	764.3
8	63	40	70	84	84	80.5	88.9	85	75	57.5	60	753
9	70	96	84.5	100	88	80.5	84.65	79.8	78	87.5	82	846.3
10	82	80	85.5	85	83	80.5	85.25	81.66	77	84	78	823.3
11	68	48	80.5	75	65	70.5	67.5	78.36	69	66.5	65	689.3
12	77	61	87.5	81	83	73.5	88.16	77	90	76	90	804.5
13	85	70	86	75	76	77.5	87.5	80.5	78	77.5	60	796.8
14	59	54	76.5	77	75	67	82.95	77.5	75	65.5	68	717.2
15	60	66	82.5	85	70	68	67.75	70.5	73	69	71	701.6
16	72	64	85	85	72	66	72.5	73	65	75	64	717.4
Gen'l Aver.	76.9	67.5	82.6	82	79.7	75.6	81.6	78.04	80	75.3	73.7	

* The general average of the candidates is based on subject values as rated by the board. The averages in each subject are on a basis of 100; 1,000 is the total perfect mark as rated by the board. The ratings assigned to each subject will be found at the head of each column.

ANATOMY

Examiner Dr. Herbert Harlan, Baltimore. Associate examiners in practical anatomy: Drs. C. M. Jackson, C. A. Erdmann, H. L. Osterud. Histology: Drs. T. G. Lee, R. E. Scammon. Neurology: Dr. A. T. Rasmussen.

Written Examination.—1. Give origin, course and distribution of (*a*) Obturator nerve; (*b*) ophthalmic nerve. 2. Attachments, action and nerve supply of the following muscles: (*a*) Psoas magnus; (*b*) biceps femoris; (*c*) scalenus anticus; (*d*) pyriformis. 3. Name accessory nasal sinuses and locate accurately their openings into the nose. 4. Describe the vessels of the liver. 5. Describe the thyroid gland.

Oral Examination.—This was conducted with the use of specimens of the brain, osseous system and internal organs, and specially prepared dissection demonstrating the gross anatomy of joints and definite regions of the body; the identification of specimens of histology under the microscope.

PHYSIOLOGIC CHEMISTRY

Examiner, Dr. Victor C. Vaughan, Ann Arbor, Mich. Associate examiners in laboratory chemistry: Drs. J. F. McClendon, F. B. Kingsbury and C. J. V. Pettibone.

Answer five questions: 1. Give methods of estimating nonprotein nitrogen in the blood, and discuss the significance of the deficiency or excess of this constituent in the blood. 2. How many amino-acids have been detected in animal proteins? Where are the amino-acids liberated from the proteins of the food in the body and what is the destination of these amino-acids? 3. What is the fate of the proteins contained in horse-serum after injection subcutaneously or intravenously in the treatment or in the prophylaxis of diphtheria? 4. Give the methods of determining the amount of uric acid in the urine and in the blood and state the significance of a deficiency or excess of uric acid in either blood or urine. 5. What is an accessory food factor? By what other name are these bodies known and in what diseases do these bodies play a part? 6. Give a list of essential food constituents and discuss the effects of a deficiency of either proteins, fats, carbohydrates or inorganic salts in the daily foods. 7. Discuss the relative values of animal and vegetable fats as foods. 8. What carbohydrates are present in our daily food and what changes does each of these undergo in digestion, assimilation and final disposition?

Practical Examination.—1. Determine the amount of glucose in a sample of urine and of blood-serum and discuss the significance of the amount of glucose in blood-serum. 2. Determine total and free acidity in two samples of gastric juice. 3. Report on the chemical and microscopic examination of three samples of urine which will be submitted to you.

MATERIA MEDICA, THERAPEUTICS AND PHARMACOLOGY

Examiner, Dr. Walter L. Bierring, Des Moines, Iowa. Associate examiners: Pharmacology, Drs. Arthur D. Hirschfelder, E. D. Brown, J. P. Schneider, E. H. Newcomb.

1. Discuss the action of ether on the central nervous system. 2. Name four medicinal preparations of iron. Discuss the therapeutic action and use of iron in chlorosis. 3. What is understood by the standardizing of digitalis? In which forms of heart disease is the use of digitalis contraindicated? Why? 4. Name four medicinal preparations of salicylic acid. Discuss the action and use of sodium salicylate in acute rheumatic fever. Write a prescription for a patient with acute rheumatic fever, to contain sodium salicylate, giving full directions for the patient and indicating the dose intended. (Sign with candidate number.) 5. Discuss the therapeutic action of antitetanus serum. Outline the dosage for prophylactic purpose. Outline the dosage for curative effect.

The practical and oral examination in pharmacology consisted of: 1. Interpretation of a tracing showing the typical effects of one or two drugs (epinephrin, digitalis, nitrites). 2. Examination of frogs showing strychnin and digitalis effect. 3. Identification by taste, smell and appearance of common drugs, such as Epsom salt, paregoric, ginger and nux vomica. 4. Therapeutic discussion based on clinical notes of:

CASE 1.—A man of 45 is suffering from weakness and shortness of breath, even when at rest. This is so severe that he must remain propped up in bed. He has occasional spells of very severe dyspnea, especially during the night. His heart is much enlarged, downward and to the left. The first sound everywhere is accompanied by a systolic murmur and followed by a soft blowing diastolic murmur, which is loudest in the third left interspace at the sternal margin. Maximal blood pressure is 220 mm. Hg, minimal 120, pulse rate 100. The liver is just palpable. There is slight edema of the ankles.

CASE 2.—Child of 8 years brought from home by ambulance to hospital. Said to have taken the contents of a bottle found not uncommonly in the bathroom cabinet. The child's lips, tongue and soft palate were swollen and white in appearance; unable to swallow, vomiting. (Carbolic acid [phenol] poisoning.)

CASE 3.—Man in working clothes is brought in to the hospital from a cheap boarding house. He is violent, disorientated, staggers and complains bitterly of epigastric pain. The face is flushed; vomiting at intervals; in an hour lapses into a stupor. What common agent should be considered? Treatment? (Wood alcohol poisoning.)

CASE 4.—A man of 30 has chills occurring every other day with temperature rising to 102. Examination of the blood shows tertian malaria parasites. Give treatment.

OBSTETRICS AND GYNECOLOGY

Examiner, Dr. Austin Flint. Associate examiners: Drs. J. C. Litzenberg, L. W. La Vake, L. W. Barry, M. H. Haynes, F. L. Adair.

1. (*a*) Describe the physiologic changes in the blood in normal pregnancy. (*b*) Discuss diagnostic importance of blood examination in presence of pathologic conditions *which might develop* during pregnancy. 2. What would be your management of a case with a pelvis moderately contracted observed at the eighth month of pregnancy? 3. Describe the origin of liquor amnii. What is its function during pregnancy and labor? 4. Describe the pathologic lesions found in toxemia of pregnancy and indicate the lesions associated with the clinical varieties of the condition. 5. (*a*) Define version. (*b*) What are the indications for performing internal podalic version? (*c*) What conditions must be fulfilled before the operation can be performed? 6. Give symptoms and diagnosis of ovarian cyst. 7. Discuss cause and treatment of abnormal bleeding from the nonpregnant uterus. 8. Give etiology, symptoms, diagnosis and treatment of extra-uterine pregnancy. 9. Give etiology, symptoms and treatment of retroversion of uterus. 10. Discuss etiology and symptoms of tuberculosis of the female organs of generation.

Oral Tests.—During the written examination each candidate was required to make demonstrations on the manikin and to explain different obstetric operations.

PATHOLOGY

Examiner, Dr. Louis B. Wilson, Rochester, Minn. Associate examiner, Dr. H. E. Robertson, Minneapolis.

The following questions are for record only, and will not have any bearing on the candidate's standing: 1. About how many postmortems have you attended? 2. In about how many have you assisted? 3. In about how many have you been the responsible pathologist?

Answer five of the following questions: 1. Discuss the pathology of postoperative peritonitis. 2. A male, apparently about 50 years of age, is found on the street in a dying condition. There is no visible external injury. Describe the coroner's necropsy technic and give the probable findings. 3. Discuss the nonmalignant pathologic changes in the senile prostate. 4. Discuss the pathologic changes in the kidney which may occur as a complication of scarlet fever. 5. Discuss in sequence of occurrence the changes in blood and organs in pernicious anemia. 6. Discuss the pathology of fever. 7. Discuss our present knowledge of the pathology of traumatic shock.

Laboratory Examination.—Each candidate was given gross specimens and microscopic sections chosen from the following: *Gross:* Tuberculous pericarditis; acute fibrinous pericarditis; lobar pneumonia; chronic tuberculosis; infarction; cirrhosis; cystic colloid goiter; arteriosclerosis and cysts; nephroma (carcinoma); congenital cystic; carcinoma with ulcer; typhoid ulcers; hemorrhage; carcinoma of cervix; carcinoma; old impacted fracture of neck; malignant papilloma. *Microscopic:* Chronic glomerulonephritis; hyperplasis of thyroid; squamous cell carcinoma of lip; spindle cell sarcoma of leg; actinomycosis, etc.

BACTERIOLOGY, SEROLOGY AND PARASITOLOGY

Examiners, Admiral E. R. Stitt, Colonel J. F. Siler. Associate examiners: Drs. W. P. Larson, A. T. Henrici, Anne G. Benton, E. C. Rosenow.

1. (*a*) In the case of individuals exposed to diphtheria, describe briefly the technic of the test that may be carried out to determine whether the individual is immune. (*b*) If an individual is not immune to diphtheria in what ways may protection against the disease be conferred? 2. (*a*) What are the leading characteristics of the Koch-Weeks bacillus, and how would you diagnose by laboratory methods such an infection of the eye? (*b*) What are some of the other organisms to be considered in infections of the eye? (*c*) What are the characteristics of *Bacillus pestis?* 3. (*a*) What laboratory procedures should be carried out in establishing a diagnosis of meningococcus meningitis? (*b*) What laboratory procedures should be carried out in establishing a diagnosis of tuberculous meningitis? 4. (*a*) Which of the vaccines are of proved value in the prevention of disease; what vaccines are of proved value in the treatment of disease? (*b*) Name the serums that are of proved value in the prevention of disease; name the serums that are of proved value in the treatment of disease. (*c*) If a patient was brought to you who had been bitten by an animal suspected of having rabies, what steps would you take to establish a diagnoris? 5. (*a*) What are the nematode (roundworm) infections found in the United States and in what parts of the country are each encountered? (*b*) What are the cestode (tapeworm) infections found in the United States and in what parts of the country are each encountered? (*c*) Describe briefly the life-history of the hookworm and beef-tapeworm from the time the ova leave the intestinal canal of an infected individual until they again reenter a human being in an infective stage.

Laboratory Examination.—The examiner is provided with tubes, plates, etc., of various standard culture mediums. The candidate is examined as to the composition, uses, technic of inoculation and study of these. There are also provided plates of plain agar, blood agar, etc., showing colonies, and the candidate is examined as to his ability to recognize and discuss colony characteristics with the unaided eye and magnifying glass. Various serologic preparations, such as Wassermann or other complement fixation tests, microscopic agglutination precipitin reactions, are provided, and interpretation of these is required. Specimens of intestinal parasites and their ova, together with stained smears of blood preparation of parasites, will be given the candidates for indentification.

PHYSIOLOGY

Examiner, Dr. W. S. Carter, Galveston, Texas. Associate examiners: Drs. E. P. Lyon, F. H. Scott, Esther M. Greisheimer, Minneapolis.

Answer *any five* of the following questions: 1 (*a*) Explain what is meant by the alkali reserve of the body. (*b*) Give two methods by which a decrease in the alkali reserve may be definitely determined. 2. What are the dangers in the transfusion of blood and how would you determine if A's blood could be safely transfused into the vessels of B? 3. Give the mechanism which causes the outpouring (*a*) of bile and (*b*) of pancreatic juice into the intestine during digestion. 4. Give the functions of the glomeruli and of the uriniferous tubules of the kidney. 5. Tell how the activity of the vasomotor center may be influenced (*a*) by chemical stimulation and (*b*) by afferent nerve impulses. 6. Give the nervous control of the urinary bladder and describe the mechanism of micturition.

Practical Examination.—Each candidate was examined on clinical pulse tracings, reflexes, blood pressure, heart sounds and physiologic tracings.

Examinations in the following subjects were conducted simultaneously in Minneapolis and Rochester.

SURGERY

Examiners: Admiral W. C. Braisted and Dr. E. Wyllys Andrews. Associate examiners in Clinical and Operative Surgery: Drs. A. C. Strachauer, A. A. Law, J. A. Johnson, W. E. Sistrunk, R. C. Webb, F. C. Mann, Conrad Jacobson, H. B. Zimmerman of Minneapolis, and Drs. E. S. Judd, J. C. Masson, M. S. Hebdreson, W. F. Braasch, Paul A. Wheary.

(Answer questions 1, 2 and 7. Choose any two from remaining four.) 1. A male patient, aged 24 years, complains of persistent headache, failing vision, dizziness, rapid gain in weight and lessened sexual powers extending over a period of one year; general physical examination is negative. (*a*) What lesion would be suspected? (*b*) What surgical advice would you give? 2. A female patient, aged 30 years, complains of general nervousness, weakness, attacks of vomiting and diarrhea and loss of weight extending over a period of two years. Physical examination shows moderate enlargement of the thyroid gland, systolic pressure 115, diastolic 80. Give diagnosis, discuss differential diagnosis and treatment. 3. Discuss the treatment of lung abscess. 4. Give the indications for operation in gastroduodenal ulcer. 5. (*a*) Give the signs and symptoms of acute intestinal obstruction. (*b*) Discuss the cause of death in high intestinal obstruction. 6. Discuss the treatment of fracture of both bones in the middle third of the forearm. 7. Discuss the factors of safety in the surgical management of a severe injury involving the necessity of amputaion of a limb.

Clinical Examination.—This was held in the wards of the University Hospital, Minneapolis and Mayo Clinic, Rochester. Each candidate was given at least three cases, and these were chosen from the following: osteo-arthritis of the wrist; perinephritic abscess; cholecystitis, chronic; inguinal hernia; carcinoma of stomach; subphrenic abscess; toxic adenoma of thyroid; carcinoma of uterus, with generalized metastases; hyperthyroidism, with multiple adenoma of the thyroid; posterior ligation, exophalmic goiter; subacute appendicitis.

Operative Surgery.—Each candidate was given one operation on dogs, that had previously been killed with ether, selected from the following list: trephine; tracheotomy; thoracotomy; appendectomy; lateral intestinal anastomosis; inguinal hernia; suprapubic cystotomy; amputations of legs and feet; and also a practical examination in regional anatomy on the living human model.

SURGICAL SPECIALTIES

Examiners, Drs. Herbert Harlan and David A. Strickler. Associate examiners: Drs. John S. Macnie, W. E. Patterson, Horace Newhart, Minneapolis; Drs. C. B. New, A. D. Prangen, H. I. Lillie. Examiner in Disease of the Skin: Drs. S. E. Sweitzer, John Butler, Minneapolis; Drs. J. H. Stokes, H. Irvine.

Each candidate was given examples of ordinary diseases of the eye, ear, nose and throat, as well as eye ground examination, and each candidate was given examples of ordinary skin disease to diagnose.

MEDICINE

Examiners, Dr. H. D. Arnold, Boston; Dr. Walter L. Bierring, Des Moines, Iowa. Associate examiners in Minneapolis: Drs. S. M. White, J. P. Schneider, R. I. Rizer, Clinical Laboratory. Drs. Archie H. Beard and H. S. Diehl, Clinical Microscopy. Clinical Medicine, Rochester: Drs. R. D. Mussey, W. L. Lemon, Reginald Fitz, George B. Eusterman, H. F. Helmholz, and A. H. Logan. Clinical Microscopy, Dr. A. H. Sanford and Colonel J. F. Siler.

Answer ten questions. The first six are required; select four from numbers 7 to 12. 1. Cerebrospinal fever: (*a*) Etiology. (*b*) Describe the course of the ordinary form. (*c*) Diagnosis. (*d*) Treatment. 2. (*a*) What is uremia? (*b*) What grouping of symptoms and conditions before urinalysis is made would suggest a probable diagnosis of uremia in a case without convulsions or coma? (*c*) How would you differentiate uremic coma from that of apoplexy? (*d*) From alcoholic coma? (*e*) From opium poisoning? 3. (*a*) What is chlorosis? (*b*) Describe the symptoms and the blood picture. (*c*) Treatment. 4. (*a*) Discuss the etiology and diagnosis of rheumatic fever. (*b*) Discuss the significance of a systolic heart murmur in this disease. (*c*) Treatment of rheumatic fever. 5. On what evidence would you feel warranted in making a diagnosis of tuberculosis of the intestine? 6. Symptoms and diagnosis of acute pancreatitis. 7. (*a*) Discuss the Wassermann reaction in relation to diagnosis of syphilis. (*b*) What considerations would influence your decision as to the use of arsphenamin in a case which showed a

positive Wassermann reaction but in which clinical signs of active syphilis were absent? 8. Describe a case of congenital cretinism and give full details of treatment. 9. (*a*) To what may stricture of the esophagus in an adult be due? (*b*) How would you distinguish between a spasmodic and an organic stricture of the esophagus? 10. How would you proceed to determine the cause of asthma in a patient? 11. (*a*) Prophylaxis; (*b*) diagnosis; (*c*) treatment of trichiniasis. 12. (*a*) Diagnosis; (*b*) treatment of duodenal ulcer.

Clinical Examination.—This was held in the Mayo Clinic, Rochester, and in the University Hospital, Minneapolis, each candidate being assigned to a long case and then quizzed on his findings. Following this the candidate was assigned to two short cases representing some well defined condition, as abdominal tumors, double hydrothorax, mitral stenosis and regurgitation, fibroid T. B., right side, bronchial asthma, tabes, aortic regurgitation, aortitis, acute glomerulonephritis, anasarca, anemia, cerebrospinal syphilis, pulmonary tuberculosis, mediastinal abscess, polycythemia.

Clinical Laboratory.—Each candidate was required to examine specimens of stool washings, blood smears, etc., and give diagnosis.

HYGIENE

Examiner, Surg.-Gen. H. S. Cumming, U. S. P. H. S.

Answer *any five* of the following questions: 1. Discuss the causes and prevention of plumbism. 2. How is the pasteurization of milk accomplished and what are its advantages? 3. What are the public health duties of a practicing physician? 4. Discuss the etiology, epidemiology and prevention of hookworm disease. 5. Name the principal diseases transmitted by insects and give name and principal breeding places of insects concerned. 6. State in detail the measures to be instituted for the control of malaria.

MEDICAL JURISPRUDENCE

Examiner, Surg.-Gen. H. S. Cumming, Washington, D. C.

Answer *any five* of the following questions: 1. Discuss the fundamental conditions on which suits for damages resulting from alleged malpractice may be based. 2. Discuss the evidence to be considered in determining whether or not a dead infant has lived since birth. 3. Discuss in detail the evidence that the attending physician should collect when called in civil practice to attend a living person who has received a gunshot wound at the hands of another person. 4. Discuss the identification of blood stains with reference to the differentiation of human and animal blood. 5. Discuss the detection of malingering. 6. Discuss the legal responsibilities of the practicing physician relative to the proper reporting and registration of births and deaths.

Arizona January Examination

Dr. Ancil Martin, secretary, Arizona State Board of Medical Examiners, reports the written examination held at Phoenix, Jan. 4-5, 1921. The examination covered 10 subjects and included 100 questions. An average of 75 per cent. was required to pass. Of the 10 candidates examined, 3 passed and 7, including 2 osteopaths, failed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Northwestern University		(1920)	82.9
University of Pennsylvania		(1918)	77.4
Fort Worth School of Medicine		(1902)	77.4
	FAILED		
Chicago Hospital College of Medicine		(1919)	69.5
Hahnemann Medical College and Hosp., Chicago		(1915)	61.3
Kansas Medical College		(1898)	73.7
St. Louis College of Physicians and Surgeons		(1920)	70.8
University of Michigan Medical School		(1906)	72.4

Oklahoma January Examination

Dr. J. M. Byrum, secretary, Oklahoma Board of Medical Examiners, reports the written examination held at Oklahoma City, Jan. 12-13, 1921. The examination covered 12 subjects and included 120 questions. An average of 75 per cent. was required to pass. Five candidates, including 1 osteopath, took the physician's and surgeon's examination, all of whom passed. Seventeen candidates, including 5 osteopaths, were granted physician's and surgeon's certificates by reciprocity. One candidate was granted a reregistration license. The following colleges were represented:

College	PASSED	Year Grad.	Number Licensed
Kansas City College of Medicine and Surgery		(1920)	1
University Medical College of Kansas City		(1898)	1
University of Oklahoma		(1920)	1
University of Pennsylvania		(1919)	1

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
University of Arkansas		(1903), (1916)	Arkansas
College of Physicians and Surgeons, Keokuk		(1895)	Kansas
Louisville Medical College		(1904)	Kentucky
Tulane University		(1905)	Alabama
University of Maryland		(1905) Kansas, (1914)	Maryland
Detroit College of Medicine		(1892)	Ohio
Marion-Sims College of Medicine		(1895)	Missouri
John A. Creighton Medical College		(1912)	Missouri
University of Nebraska College of Medicine		(1920)	Nebraska
Vanderbilt University		(1899)	Texas

Social Medicine and Medical Economics

THE PENNSYLVANIA IDEA AND THE VENEREAL PROBLEM

ROBERT A. BACHMANN, M.D.
Commander, M. C., U. S. Navy

In Dr. Eliot's famous five foot shelf of books, the Harvard Classics, you will find Franklin's autobiography in the first volume. If you turn to page 69, the following paragraph will meet your eye:

> In the meantime that hard-to-be-governed passion of youth hurried me frequently into intrigues with low women that fell in my way, which were attended with some expense and great inconvenience, besides a continual risque to my health by a distemper which of all things I dreaded though by a great good luck I escaped it.

In that confession lies considerable food for thought. It shows, for example, that Franklin had a definite idea of the dangers attending promiscuous sexual relations, and that in spite of this hazard he was willing to "risque" his health, and in doing it to go to considerable expense and inconvenience to boot.

It would be difficult to conceive of a more typical American character than this founder of the *Saturday Evening Post*, scientist, eminent emmissary, statesman and patriot. Suppose, now, that he had not been so lucky in escaping the "distempers" and had become infected with syphilis, of which, no doubt, there was considerable prevalent at that time in Philadelphia. In that event, perhaps, the discovery of the nature of lightning, of the Gulf Stream, and of the stove, might not have been made. Perhaps, too, some of the maxims set down in Poor Richard's Almanac might not have found expression, and his missions to France and England might not have been accomplished; for in Franklin's day a syphilitic infection must have been a much more formidable matter than today. This is conjecture, of course, but it is pertinent and interesting.

I have chosen this example because it illustrates so forcefully and impressively that in dealing with the venereal problem you must be human above all things and regard it in all its human aspects. The corner loafer exposes himself to venereal infection, and so does the professional man. The ignorant negro laborer risks his health, and so does the medical student fresh from the outpatient clinic, with the picture of a secondary eruption or a helpless paretic hardly effaced from his memory.

A cross-section of our army showed that it was composed of all strata of society and all grades of education. It included every type and class of American. Yet the venereal infections were not confined to any one portion of it, and to attempt a classification along those lines would have yielded no result. To paraphrase the late Senator J. J. Ingalls: "In the great democracy of sexual impulse, all men stand equal." The corner loafer and the ignorant negro laborer perhaps call for greater consideration; and therefore whatever efforts are made to teach and enlighten them must be made more insistently and broadly; but, however well made, without medical prophylaxis the effort will be incomplete. Bearing Franklin in mind, what can you expect of them?

Then, again, of what value is a pamphlet explaining how syphilis is contracted or gonorrhea is spread, to the medical student, the informed college graduates and professional men—the Benjamin Franklins of modern life? What about the vast army of men who have already bought their venereal education at the dearest price possible—a previous infection—and who, notwithstanding, are exposing themselves again? What process of supereducation is there to impress them?

Any venereal program that does not include all the weapons available to win the fight is incomplete and ineffectual to that

extent. No one can arbitrarily declare that medical prophylaxis alone will do away with the venereal evil, or that educational measures alone will solve the problem or that moral appeals alone will bring success. It requires, at best, the joint application of all three; and even then the progress will be none too rapid.

The argument that the provision of medical prophylactic agents will increase immorality is mere sophistry and not based on facts. The direct opposite has been demonstrated every time any investigator has taken the trouble to find out the truth by observation instead of delivering an offhand, unsupported opinion.

Here it might be well to quote Riggs,[1] who has put the case strikingly:

> The argument generally made against medical prophylaxis is that it does away with the fear of the disease which is considered by some as a strong deterrent against immoral sexual conduct. In practice, physicians are well acquainted with the "never again" statements of those suffering from veneral infections. They also know how such statements are forgotten so quickly when a cure is completed. Be that as it may, it would seem that the fear of venereal disease is a very poor substitute for genuine morality. Nor can the view that a disease is a just punishment for the immoral be defended. Love of morality, not the fear of the consequences of immorality, is the only standard of ethical worth.

Yet this pseudomorality seems to be the aim of half the antivenereal programs put into effect recently.

In the utilization of medical prophylaxis there are many conditions which must be considered, the most important of which is the medicament itself. Then the ease of application ought be taken into account, as well as the privacy of the procedure and such other factors as the amount of pain involved and the unpleasantness of the application. The latter objection is one of the most frequent reasons why prophylaxis is avoided or improperly applied. It takes no great stretch of imagination to conceive the positive messiness caused by a full urethral injection of a silver salt solution followed by a thorough inunction with calomel salve. Can you picture any ones going through this procedure with any degree of enthusiasm?

THE PENNSYLVANIA IDEA

To overcome some of the objections to the prophylactic stations and to make reliable prophylaxis as generally accessible as possible, the Pennsylvania State Department of Health took one of the most progressive steps that any official body has taken for some time. A little more than a year ago this board decided to augment its facilities for putting medical prophylaxis on a practical basis, and considered the advisability of making use of the drug stores throughout the state. This decision was eventful in two ways: First, it established a substitute for the government stations which had to be abandoned after the war and, second, it replaced the old dispensary, or "two application," method of prophylaxis by the modern and more accurate tube method.

The only difficulty that seemed to interfere with the successful carrying out of the scheme was that any number of tubes had been put on the market, most of which had little or no claim to scientific recognition.

It is generally conceded by those who have had sufficient experience to warrant their having any opinion on the matter that tube prophylaxis, when the tube employed is a reliable one, is probably the most practical and effective of all prophylactic measures. The experience of the Navy is a striking proof of this statement.

So the Pennsylvania state board made the ruling that only tubes that passed certain given requirements were to receive the official approval. These requirements were strictly drawn and covered the container as well as the ointment within. The regulations that affected the container were concerned with the matter of size and safety to the user; those that affected the contents were tests to establish the necessary bactericidal efficiency.

1. Riggs, C. E.: Naval M. Bull., January, 1921.

The regulations covering the application for approval are as follows: The formula of the tube seeking endorsement must be given. An analysis then is made to see whether it agrees with the ingredients claimed and the amounts stated. Next, bacteriologic tests are made to ascertain the antibacterial activity. For this purpose twenty-four hour cultures of diphtheroids and staphylococci are used, as both are found in the urethra in chronic gonorrhea, and both are more resistant than the gonococcus. Lastly, the existence of undue irritation is determined by injecting the ointment in a rabbit's eye and noting the effect.

From this it will be seen that not only are the obviously commercial tubes elminated and the public safeguarded in this respect, but even the old "two way" dispensary system is improved on; for it is a fact that in the latter method rarely ever was there any uniformity about the composition and strength of the calomel salve or silver salt solution employed. And never were any tests for efficiency made. All tubes after approval, must furnish samples for analysis every month. This insures maintenance of standards.

Now, when you consider that nearly every drug store in Pennsylvania will in this manner be converted into a prophylactic station, and this without cost to the state, and that the prophylactic provided will be of proved efficiency, it is evident that a marked, yes, an enormous reduction of venereal disease is bound to take place.

It should not be forgotten that the other methods of venereal disease control are not being neglected. An educational program is being carried out with great vigor and every effort made to procure moral and social improvement. Clinics have been established all over the state, and the physician individually has been enlisted in the movement.

At the present there are twenty-eight clinics under state control, and 115 clinics are working in cooperation. These clinics are directed to search out the source of infection and become responsible for the subsequent treatment and disposition of each case.

Many jails, almshouses and other state institutions have been making routine examinations of inmates. The House of the Good Shepherd in Philadelphia has provided sixty beds for rehabilitation and reconstruction work; and a state institution with 400 beds, devoted entirely to public health menaces infected with syphilis, is under project.

It may be well to call to mind that in Pennsylvania the state has powers of quarantine over venereal cases, and thousands of such cases have been already isolated.

THE COST TO THE STATE

The result of the Pennsylvania idea should appear before long. In the larger cities, like Philadelphia and Pittsburgh, the more important hospitals should note a decrease in their venereal disease outpatient departments. A marked proportionate, state-wide reduction in the venereal rate, not observed simultaneously in the surrounding states, would support the conclusion that the Pennsylvania idea is sound in conception and practical in execution.

Not the least important part of the idea is the unique feature that the medical prophylaxis does not cost the taxpayer a penny. Already shadows are being cast before. The handwriting experts are beginning to scrutinize the mural decorations with great interest. In Washington, the Interdepartmental Social Hygiene Board has been done away with. The more than two million dollars which it required to carry on was considered unjustifiable.

The Pennsylvania idea costs the state nothing. But when the eventual figures are computed and the total tabulated, I venture to make the prediction that the great state of Pennsylvania will appear with a balance sheet that will make some of the other states sit up and rub their eyes.

Book Notices

Die Syphilis des Zentralnervensystems: ihre Ursachen und Behandlung. Von Professor Dr. Wilhelm Gennerich. Paper. Price, 56 marks. Pp. 265, with 4 illustrations. Berlin: Julius Springer, 1921.

This monograph is considerably smaller than the well-known book of Nonne on "Syphilis and the Nervous System," but it is a more complete work on the treatment of neurosyphilis, to which 160 pages are devoted. It is based on the detailed study of 8,000 cases observed during a period of twelve years. The chief aims of the author are: To make clear the manner in which syphilis first attacks the nervous system; to show how specific treatment promptly and properly applied may save the patient from permanent involvement of the central nervous system and under other conditions actually favor and further the development of "metasyphilitic" affections, and finally, to give detailed directions for treatment at all stages. He believes that many untreated patients later develop tertiary syphilis of some organ, while early treatment, not repeated in time or to sufficient extent, favors localization of the disease in the more inaccessible meninges, with subsequent development of metasyphilitic disease. It is, therefore, all important to be on guard and treat promptly the early and latent meningeal involvement, and if this is done he is confident that further syphilitic disease of the central nervous system can be avoided. The author is a firm believer in intraspinal arsphenamin treatment, for the development of which he gives credit to Wechselmann and Swift and Ellis without mentioning the equally early work of Marinesco and Ravaut. Gennerich's own method consists of the intraspinal injection of arsphenamin sodium dissolved in a small amount of 0.4 per cent. salt solution and mixed with 50 or 60 c.c. of the patient's spinal fluid. He considers the removal of such a large amount of fluid devoid of danger, as it is immediately reinjected. In ordinary meningeal or cerebral syphilis and in general paresis the dose is generally between 1 and 2 mg., while in tabes or myelitis only from 0.5 to 0.7 mg. is given. The smaller dose is especially advisable when the sphincters are disturbed. Intravenous arsphenamin treatment is also recommended, but mainly as supplementary to the more efficient intraspinal one. The author does not claim to cure general paresis, but remissions of long duration were produced in a great many cases. The chief value of intraspinal therapy is said to be in the early stages of meningeal involvement when, according to the author, it alone will check further development of the disease. Altogether, this work is an important contribution to the therapeutics of neurosyphilis, and it deserves careful and unprejudiced study by all who desire to be up to date in this subject.

Types of Mental Defectives. By Martin W. Barr, M.D., Chief Physician, Pennsylvania Training School for Feeble-Minded Children, Elwyn, Pa., and E. F. Maloney, A.B., Professor of English, Girard College. Cloth. Price, $3 net. Pp. 175, with 188 illustrations. Philadelphia: P. Blakiston's Son & Co., 1920.

This is a useful book for teachers, students and practitioners. The combination of the portraits and case histories gives a quickly acquired and vivid idea of the types dealt with. It is too bad that some of the portraits are not better. There are a few fairly long histories; these naturally are of the higher, more complex types: the high grade imbeciles, idiot savants, etc. The other histories are short; but, wasting no words, cover most of the salient details. The point of view of the authors shows the influence of the newer, more flexible ideas of psychiatry. For example, in speaking of the idio-imbeciles, the gaining of some satisfaction from their work is held responsible for preventing them from lapsing into idiocy. On the other hand, one or two statements, if taken literally, seem rather misleading: "became insane from masturbation"; "difficulty in cutting her teeth and paralysis ensued." A sidelight is thrown on the concept of dementia praecox in the chapter of that heading in which are described cases of insanity developing in the feebleminded characterized chiefly by attacks of more or less prolonged emotional outbursts. These suggest the emotional outbursts of adolescent children, and perusal of the chapter suggests that they are much more common in so-called cases of dementia praecox developing in the feebleminded than they are in more normally evolved individuals. The chapters on epileptics, microcephalics, Mongolians, in fact in all types with very marked physical maldevelopments, indicate the gloomy prognosis, the unresponsiveness of these unfortunates. The improvement consequent to careful training of the idiot savant class shows the influence of egoistic satisfaction on the general life of the individual, even though complete development and evolution are impossible. These patients seem to lead contented lives with a minimum of shelter. However, when too much stress is put upon them they retreat into themselves and show their best side only after returning to the shelter of the institution life.

Leitfaden der Elektrodiagnostik und Elektrotherapie für Praktiker und Studierende. Von Prof. Dr. Toby Cohn. Sixth edition. Paper. Price, 30 marks. Pp. 226, with 72 illustrations. Berlin: S. Karger.

This edition of Toby Cohn's handy volume on electrodiagnosis and electrotherapy seems to have undergone slight changes; nevertheless, the author has thoroughly revised his work, paying attention to details and leaving the general arrangement of the book as before. A feature of the work which commends it to the physician is the insertion of plates with colored tissue paper prints on which are indicated in red the motor and nerve points used in electrical testing and in treatment. It is this feature which makes the book almost indispensible to one who makes use of electricity as a means of diagnosis and treatment. The author is further to be commended for the manner in which he introduces his reader to the various electrical apparatus and their uses, assuming nothing for granted on the part of the reader. The subject of electrodiagnosis, especially the reaction of degeneration—a bugbear to most practitioners—is explained in an easy and intelligible style; and finally, electrotherapeutics is given conservative and dignified consideration. Of the several books on the subject of medical electricity, this one has the outstanding merit of being complete, concise and eminently practical.

The Shibboleths of Tuberculosis. By Marcus Paterson, M.D., Medical Superintendent, Metropolitan Asylum Board, Colindale Hospital. Cloth. Price, $5 net. Pp. 239. New York: E. P. Dutton and Company. 1920.

A shibboleth, according to the Encyclopedia Britannica, is a catch phrase or cry to which the members of a party adhere after any significance or meaning which it may have imparted has disappeared. Dr. Paterson, who conducts a large institution for the treatment of tuberculosis in Great Britain, lists forty-nine shibboleths relating to tuberculosis, and analyzes them in such a way as to point out their erroneous and misleading character. He is a firm believer in the treatment of tuberculosis by autoinoculation induced through graduated labor: he does not believe in the rest treatment. Among some of the shibboleths which he destroys are that persons who have tuberculosis should not marry; that clubbing of the fingers is a sign of tuberculosis; that you can detect active tuberculosis by means of roentgen rays, and that farm colonies are necessary for the after-care of tuberculous persons. Dr. Paterson's method of presentation is vigorous and stimulating, and his book should interest all who are interested in the treatment of this disease.

Taschenbuch der Knochen- und Gelenktuberkulose (Chirurgische Tuberkulose) mit Einem Anhang: Die Tuberkulose des Ohrs, des Auges und der Haut. Ein Leitfaden für den Praktischen Arzt. Von Dr. H. Schwermann, Facharzt für Tuberkulose, Oberarzt am Sanatorium Schwarzwaldheim Schömberg-Neuenbürg. Paper. Price, 15 marks. Pp. 150, with illustrations. Leipsic: Curt Kabitzsch, 1920.

This little volume is a laudable attempt to present to the general practitioner a guide to the early recognition of surgical tuberculoses, at the time when treatment is most effective. It is a book for refreshing one's knowledge on this subject, although not introducing anything new. The general part takes up the pathology, roentgen diagnosis, specific diagnosis, bacteriology, therapy and prognosis, and the special part the various bones and joints as they are severally affected. The part on diagnosis is most valuable to the practitioner. The special treatment advised, while not appealing to the specialist, is yet too complicated and too important for the practitioner to undertake safely.

Medicolegal

Examination and Choice of Methods—Failure to Use Roentgen Rays—Expert Evidence

(Schumacher v. Murray Hospital et al. (Mont.), 193 Pac. R. 397)

The Supreme Court of Montana, in reversing a judgment obtained by the plaintiff, an administrator, for alleged malpractice in the treatment of one Currier, says that the latter sustained an impacted fracture of the right hip joint or neck of the femur, accompanied with a dislocation of the hip joint, but the injury was diagnosed as a dislocation of the hip joint, and, it was alleged, treated as such for about fifty days. It was undisputed that the defendants did not use the roentgen ray until the thirty-sixth day. The physicians in effect said that they had no reason to suspect the existence of the fracture, and that, even if they had discovered it earlier, there would have been no change in the treatment under the conditions existing; and there was no change in treatment prior to the discovery of symptoms indicating pus.

Currier was entitled to an ordinarily careful and thorough examination, such as the circumstances, the condition of the patient, and the physician's opportunities for examination permitted and demanded. Whether the conditions surrounding the patient demanded the use of the roentgen ray was a question for the jury. Whether or not the physicians were guilty of failure to use reasonable care and diligence in discovering the extent of Currier's injuries was necessarily involved in the question as to whether he received proper treatment and examination. The plaintiff's experts were asked whether the failure to use the roentgen ray under the conditions was want of care. The answers of two of them did not disclose the necessity of the use of the roentgen ray except in case of doubt, and the third witness merely said that he used it in his own practice in all cases, but did not know the practice of others in that regard. Such testimony did not prove negligence or want of care or skill. Under any conditions, whether or not failure to use the roentgen ray to determine the nature and extent of Currier's injuries was a want of care was a question to be decided by the jury, and a requested instruction should have been given to the jury that it could not consider any of the testimony in this case with reference to the failure of the defendants to take a roentgenogram of Currier's hip unless it found from the evidence that the plaintiff had proved by a preponderance of the evidence that it was usual and customary under like circumstances to take a roentgenogram, and that ordinarily skilful and careful physicians and surgeons under similar circumstances would have done so; proof of the failure of the defendants to take a roentgenogram of Currier's hip by itself was not evidence of negligence on their part. The instruction was applicable to the evidence, and embraced correct principles of law.

There can be no question that recovery could not be had without expert testimony supporting the charge of malpractice. But the consideration of evidence necessary to a determination of the issues would be taken from the jury by an instruction that the question as to whether or not the defendants in treating the injury used that degree of reasonable care and skill used by physicians and surgeons engaged in the same line of practice in similar localities was a question to be determined from the expert testimony of physicians and surgeons, and the jury must base its findings as to such questions on the testimony submitted by the physicians and surgeons as expert witnesses relative thereto. Of course, in the absence of expert testimony in behalf of the plaintiff in a malpractice case, the court is not justified in submitting the case to the jury. But, when competent expert evidence has been received, it is to be considered by the jury only as other evidence in the case. On request, an instruction should have been given that expert evidence is entitled to importance only when fairly given by one properly accredited through his experience and study in the particular science on an hypothesis which is true in the relation of its parts to the whole case, which is the subject of inquiry; that is to say, the value of an expert witness depends on the knowledge, learning and experience of the expert and on the facts on which it is based. Therefore, if the jury finds that the opinions expressed by any expert were given in answer to hypothetic questions which were incomplete in the presentation of the material facts as shown by the evidence, the jury is at liberty to give the testimony of such expert only such weight as the jury believes it may be entitled to in view of all the established facts in the case.

Another requested instruction which should have been given to the jury was that a physician or surgeon is not bound to use any particular method of treatment, and if among physicians and surgeons of ordinary skill and learning more than one method of treatment is recognized as proper, it is not negligence for the defendants to adopt either of such methods; and the fact that some other method of treatment existed, or some other physician or surgeon testified that he might or would have used or advised the other or different method, does not even tend to establish negligence of improper examination or treatment on the part of the defendants; nor would it be an act of negligence or impropriety for the defendants not to have adopted such method, so testified to by such other physician or surgeon.

The fact that other physicians might have adopted other methods does not necessarily render the attending physician liable, nor show negligence or want of skill or care. If the method adopted is one which has substantial medical support, it is sufficient. And, where there is a difference of opinion among practical and skilful surgeons as to the practice to be pursued in certain cases, a physician may exercise his best judgment, employing the methods his experience may have shown to be best, and mere error of judgment will not make him liable in damages, in the absence of a showing of want of care and skill. Nor is an incorrect diagnosis of itself sufficient to establish liability. The plaintiff must show that such mistake was due to a failure to use ordinary care and diligence and to exercise reasonable learning, skill and judgment in his examination and treatment.

City Not Liable for Negligence at Hospital

(Zummo v. Kansas City (Mo.), 225 S. W. R. 934)

The Supreme Court of Missouri, Division No. 1, in affirming a judgment in favor of the defendant city, says that the plaintiff's petition disclosed that her claim was founded on the assumed liability of the defendant in damages for her husband's death under circumstances which indicated by necessary inference that the defendant, in its municipal capacity, owned and operated a hospital in which it received the plaintiff's husband, who was sick, as a patient, and carelessly and negligently, by its agents and servants in charge of the hospital, caused him to be confined in a cell with an insane patient known by it to be violent so as to require restraint, who killed him. These facts raised the question whether the defendant was liable in damages on account of acts done or omitted by its agents and employees in the conduct of its hospital, which, in effect, is answered in the negative. Among other things, the defendant was created the governmental instrument of the state in the enforcement of all laws relating to the public health, with discretion to make by ordinance rules and regulations including the support, maintenance and confinement of insane persons. In these respects it was the arm of the state government, including the use of its legislative powers so far as consistent with the constitution and laws of the state.

This being the case, the same exemption that was enjoyed by the state itself from liability for damages inflicted by its officers and its agents in the performance of similar duties attached to the defendant city. For these purposes it was not merely an agency of the state, but was, under the constitution, an integral part of the state government, and partook of its immunities as well as its duties. No element of safety is more important than those pertaining to the public health. The health and police departments of the city are parts of the general government of the state as administered for those purposes. The duty resulting in the injury out of which this action grew related as plainly to the police power of the state as the duty of its officers in suppressing disorder and maintaining the peace.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Boston, June 6-10.
American Association for Thoracic Surgery, Boston, June 6.
American Association of Anesthetists, Boston, June 6-8.
American Climatological and Clinical Association, Lenox, Mass., June 3-4.
American Dermatological Association, Swampscott, Mass., June 2-4.
American Gastro-Enterological Association, Boston, June 4.
American Gynecological Society, Swampscott, Mass., June 2-4.
American Laryngological Association, Atlantic City, May 30-June 1.
American Laryn., Rhinol. and Otol. Society, Atlantic City, June 3-4.
American Medico-Psychological Association, Boston, May 31-June 3.
American Neurological Association, Atlantic City, June 13-15.
American Ophthalmological Society, Swampscott, Mass., June 14-15.
American Orthopedic Association, Boston, June 2-6.
American Otological Society, Atlantic City, June 1-2.
American Pediatric Society, Swampscott, Mass., June 2-4.
American Proctologic Society, Boston, June 3-6.
American Psychopathological Association, Atlantic City, June 11.
American Radium Society, Boston, June 6-7.
American Surgical Association, Toronto, Canada, June 14-16.
American Therapeutic Society, Washington, D. C., June 3-4.
American Urological Association, Montreal, June 2-4.
Association for the Study of Internal Secretions, Boston, June 6.
Association of American Peroral Endoscopists, Atlantic City, June 1.
Conference of State and Provincial Health Authorities, Boston, June 3-4.
Interstate Association of Anesthetists, Niagara Falls, June 1-3.
Maine Medical Association, Bangor, June 28-29.
Massachusetts Medical Society, Boston, May 31-June 1.
Montana, Medical Association of, Billings, July 13-14.
National Tuberculosis Association, New York, June 13-17.
Nevada State Medical Association, Elko, June 24-25.
Radiological Society of North America, Boston, June 3-4.
Rhode Island Medical Society, Providence, June 2.
Southern Minnesota Medical Association, Winona, June 27-28.
Tri-State Meeting (Oregon, Washington and Idaho), Portland, Ore., June 30-July 2.

ASSOCIATION OF AMERICAN PHYSICIANS

Thirty-Sixth Annual Meeting, held, May 10-11, 1921, at Atlantic City

DR. W. S. THAYER, Baltimore, Presiding

Case of Disseminated Subcutaneous Sporotrichosis with Lung Metastasis

DR. L. M. WARFIELD, Milwaukee: A negro had followed the races as a stable boy; had had venereal disease; had a swelling on the top of the right foot, which broke down, and other lesions occurred, with nodules, all over the body. There was a 4 plus Wassermann reaction, and the leukocytes numbered 17,000. Treatment consisted of the intensive administration of potassium iodid. The patient became weaker and died. At the necropsy a nodule was found in the right hilum of the lung, which produced sporotricha, as did also all the nodules on the body. The organism grew best at 37.5 C.; it was pathogenic for white rats and rabbits. In lung conditions the organism is found in the sputum. The lesions closely simulate those of syphilis, and are misleading on account of the giant cells. Cases do not usually end fatally.

Secondary Mold Infections of the Lung.

DR. CHARLES P. EMERSON, Indianapolis: Penicillium infection is not supposed to be pathologic, but I have seen two cases occurring in a man of 53, and a woman of 34. The first patient had a tickling of the throat; the sputum contained "slugs," and he had acute spells of respiratory distress and dyspnea, but no loss of weight and strength, and no fever. His appearance suggested the last stages of fibroid tuberculosis, but the sputum continually produced mycelia. The roentgenologist diagnosed a mold infection of the lung. The culture always gave penicillium. On potassium iodid, the man did fairly well, was able to work, and had but slight respiratory distress. The second patient, a woman, aged 34, was sent to Colorado, although she protested she always felt well. Penicillium was always found in the sputum cultures. The question is whether penicillium can be a primary invader of the lung; if it is secondary, to what is it secondary? Great caution must be taken in not confusing these cases with tuberculosis, and sending the patients to sanatoriums, as mine were, where they are exposed to the danger of contracting that disease. In another instance, two cases of sporotrichosis were reported in one family, mother and daughter. The relation to the buckwheat crop in this case could not be disregarded.

DISCUSSION

DR. L. G. ROWNTREE, Rochester, Minn.: Does sodium iodid have any effect in these cases? There is a tremendous difference in the toxicity of potassium iodid and sodium iodid. Many syphilographers are using tremendous intravenous injections of sodium iodid. Stokes, at the Mayo Clinic, uses 50 c.c. of sodium iodid intravenously. If there is any response to this drug in this condition, the large doses will be more effective.

DR. GEORGE BLUMER, New Haven, Conn.: Did you use tuberculin in those cases?

DR. T. R. BOGGS, Baltimore: I should like to draw attention to a very important reason for nondiscovery of mold infections of the lung. We have gotten away from studying the sputum in gross, and it is easy to overlook massive infections in sputum, when you only use the ordinary staining methods with anilin dyes. The mycelium is so distorted by the heat and fixation that it is not recognizable. The spores stain imperfectly, and are supposed to be large cocci. I think that we must study the sputum first in gross and then by microscopic methods, or we shall overlook these cases, which must be vastly more frequent than any one realizes. The study of black and white surface on glass, use of the loop, and study of such particles on acid carbohydrate mediums as will restrain growth of other organisms and permit development of the fungi are essential points. Recognition of fungus infections in the tissues is not easy by any section or fixation method. Special attention must be paid to the methods of demonstrating these infections.

DR. SOLOMON SOLIS-COHEN, Philadelphia: In many laboratories, no matter what the sputum is sent in for, you get back the same answer: "No T. B." If the laboratory technicians were sometimes interested in what is present as well as what is absent, they might occasionally report: "Unknown organism."

DR. W. S. THAYER, Baltimore: A woman presented a picture of bronchial and peribronchial obstruction and great dyspnea. We thought it was an aneurysm. She showed induration at the roots of both lungs, but nothing definite in the sputum and no syphilis, although there was a 4 plus Wassermann. She was sent to Asheville, and Dr. Minor said it was not tuberculosis but probably a mold infection. She returned to her physician and was given vigorous antisyphilitic treatment with arsphenamin. Later I found her specimens in the laboratory. The lungs showed extensive areas of firm, slaty color, and so much sclerosis that it seemed as if the bronchi were grasped in a vise. In the tissue we found the sporotrichum. It was cultivated, but not identified, that is, the group was not determined. Unfortunately, there was little sputum when she was in the hospital, and examination of the fresh specimen was neglected, which is just as important as examination of fresh blood, and neglect of this point accounts for failure to recognize these cases. In another case, the man showed an acute respiratory infection, with some remarkable subcutaneous nodules, like lipoma, and afterward seeming like subcutaneous gummas. We suspected sporotrichosis. It was not syphilis. He has been treated well with potassium iodid and is better, but we are not encouraged over the prognosis. There is no definite pulmonary disease.

DR. CHARLES P. EMERSON, Indianapolis: We did not use sodium iodid; we used potassium iodid. I studied the roentgenograms; the picture is quite different from that of the tuberculous lesion. We did not use tuberculin. We felt that the complement fixation test was better. We are finding aspergillus as well as penicillium. I could find only one other case in the literature.

DISCUSSION

DR. G. M. KOBER, Washington, D. C.: The so-called eliminative treatment, advocated by Hugh Bennett more than fifty years ago, consisted in the administration of tablespoonful doses of a mixture composed of liquor ammoniae acetatis, 7 ounces, and spiritus aetheris nitrosi, 1 ounce, repeated every two or three hours, until diaphoresis set in; then the inter-

vals were lengthened. In the light of modern pathology, these diaphoretic and diuretic agents evidently subserve a useful purpose in the elimination of toxins, and the blood being determined more or less to the periphery may also have a beneficial effect on the heart and lungs. This treatment appears to prevent the development, in all but bad, chronic heart cases, of the dangerous symptoms, such as demand the administration of oxygen.

Experiments in Epidemiology.

DRS. SIMON FLEXNER and H. L. AMOSS, New York: These studies consisted of artificial control of epizootic outbreaks. The organism used was *B. typhi-murium*. The mice were assembled to represent a village. One hundred normal mice, free from *B. typhi-murium*, were put in twenty cages. Ten mice were then fed a heavy suspension of the organism, and were put among the hundred normals. Roaches and flies were eliminated. Eight of the ten infected mice came down, and seven of the normal mice, by contact. After thirty days, another series of mice was brought in. The epidemic progressed in a series of waves, the crests of which became smaller. Among the first mice exposed the deaths were higher and more frequent than among the others. After two weeks there were no more deaths. The mortality now was 68 per cent.; originally it was 58 per cent. They were again restocked, and the mortality now was 14 per cent. It was supposed that greater mortality would occur among new arrivals, but it was about the same among old and new. The number of carriers was found to be in inverse proportion to the death rate—the higher the death rate, the fewer the carriers. The carriers had agglutinins in the blood, but these were not protective against a new epidemic wave. The strains of organisms had different virulence at different heights of the disease.

Symptomatic Treatment of Pneumonia

DR. JAMES H. MEANS, Boston, and DR. A. L. BARACH, Baltimore: There are two ways of combating the symptoms, reduce the demand or increase the supply of ventilation: (1) Alter metabolism and correct acidosis by giving alkali to insure normal hydrogen concentration of the blood. Sodium carbonate could be used, even if there were no free carbonic acid, because alkali tolerance is increased in pneumonia; (2) oxygen therapy can be used to improve blood flow, especially in anoxemia; (3) we can remove abdominal distention and improve the pulmonary bellows. The correction of acidosis and anoxemia would improve chances of recovery by leaving the patient free to combat the infection.

DR. C. F. HOOVER, Cleveland: With regard to the source of anoxemia and the relation between anoxemia and air hunger, the latter term describes the sensations of the patient. The patient may have extensive pneumonia with pronounced cyanosis but have no air hunger, although he may have hyperpnea. This does not come into the field of consciousness of the patient as air hunger. I had a man with complete consolidation of the entire right lung, without any nonsaturation of the lung, and no anoxemia of the aortic blood. This man had a tuberculous pneumonia and showed a pale, ischemic lung. A pneumococcus patient with cyanosis and anoxemia has a red hyperemic lung; therefore, it is due to the unrespired blood from the lung to the aortic stream. In the ischemic lung there is no unrespired blood contributed to the aortic stream. In the cardiac conditions, I have seen two patients with arteriovenous aneurysm, and the heart became enlarged. There is increased burden on the heart without increase in the capillaries. Patients with arteriovenous aneurysm have enlarged ventricles, but the auricles are not enlarged. One cannot demonstrate enlargement of the right auricle. When dealing with large heart in pneumonia, we must determine whether it is a compensatory measure or increase of the minute flow of blood. If it is a compensatory measure, there will be enlarged right auricle. If there is no auricular enlargement, one should not give digitalis. If there is auricular enlargement, one should give digitalis.

Case of Alkaptonuria, with a Study of Its Metabolism

DRS. C. P. HOWARD and R. H. GIBSON, Iowa City, Iowa: A man had symptoms of a brain lesion, probably tuberculoma. The urine showed a reducing body. The specimen showed dark brown pigment, recognized as alkapton. It is a hydroquinon-acetic acid. Twelve cases have been reported in America. They are familial, but not congenital. Often they come in children of consanguineous marriages, when the parents are cousins. There are few symptoms. Rarely ochronosus occurs. An inborn error of metabolism is the cause of the disease. Protein diet increases it. The change probably occurs in the body tissues. There is disturbance in the conversion of phenylin or tyrosin to homogentisic acid, and acetone is produced. In our patient there was rather high nitrogen retention. The sulphur production was normal.

DR. SOLOMON SOLIS-COHEN, Philadelphia: I believe in maintaining the alkalinity of the urine, which is a clinical test capable of being carried out by the nurse or by intelligent members of the family. As a rule of thumb, it answers the purpose and with a continuous administration of alkali one can use any alkaline diuretic. The indication for the empiric use of oxygen has gone through many successive waves of acceptance and rejection. Oxygen must be administered in a proper way so that the patient really gets it. Oxygen is a life-saving measure. If we use it as a routine measure, we shall waste a lot of oxygen, but we will save life. Another question is that of abdominal distention. The physician does not pay sufficient attention to the condition of the abdomen. In the old days, we percussed the right chest in typhoid; in pneumonia we must percuss the left side to determine distention of the stomach, which is much more frequent, and fatally so, than distention of the intestine. Lavage, and administration of pituitary extract, guided by the systolic blood pressure, tend to prevent gastric and abdominal distention.

DISCUSSION

DR. T. B. FUTCHER, Baltimore: I have reported alkaptonuria with ochronosus in a case in which the cartilages of the ears, the finger nails, and the cheeks had this peculiar slate color. There were three cases in that family.

Bearing of Evolution of Pneumonic Exudate on Local Chemical Factors Influencing Recovery and Resolution in Lobar Pneumonia

DR. FREDERICK T. LORD, Boston: The pneumonic process goes through a certain evolution. There is increased serum at first, and later increased hydrogen ion concentration of the pneumonic lung. The organism may be killed by the hydrogen ion concentration, but, as in the test tube, addition of serum may prolong the life of the organism. Diminution of serum and increased acid may achieve the death of the organism. The hydrogen ion concentration is important to enzyme action in general. There is a serum and enzyme balance, which probably protects the framework of the lung. When diminution of serum occurs, there is setting free of the enzyme, which spits up through the amino-acid nitrogen. The lung is spared by the antiferment in the capillary circulation. Delayed resolution is caused by too little enzyme or too much serum.

Plaguelike Infections

DRS. RICHARD P. STRONG and W. T. COUNCILMAN, Boston: Plaguelike organisms resembling *B. pestis* are found in rats, including (1) the group of hemolytic septicemic organisms affecting chickens, rabbits and swine; (2) pseudotuberculosis and (3) typhoid organisms, such as *B. typhi-murium* and the hog cholera bacillus. One organism that is pathologic for animals is *B. toulerence*, a very minute, round or rod shaped organism, which causes necrosis and proliferation of the vascular endothelium, causing congestion of the large lymphatics. Necropsy reveals rigor mortis and a granular surface of the liver like pepper grains. This is so characteristic that with the naked eye one can distinguish the lesions of *B. toulerence* from those of *B. pestis*.

DISCUSSION

DR. W. W. FORD, Baltimore: A colored man complained of very severe fever. The temperature was 104 F. There was no evidence of venereal infection, but he gave an obscure history of syphilis ten or twelve years previously. There was very marked enlargement of the inguinal and axillary glands. The picture was suggestive of bubonic plague. The

material aspirated from the glands gave cultural reactions which seemed to be those of *B. pestis*. McCoy decided it was not plague on the basis of the lack of virulence for animals—we thought it was a nonvirulent plague organism. The man recovered spontaneously. He did not have plague. In Brazil a plaguelike organism causes slight inflammation.

DR. HIDEYO NOGUCHI, New York: Was this a direct contact infection? This organism is 0.2 micron in size. Will it assume a form which will pass through an ordinary filter?

DR. R. P. STRONG, Boston: We do not know anything about the mode of infection in this case. Dr. McCoy found that the organism would not pass through the Berkefeld filter.

DR. WILLIAM H. PARK, New York: In New York City we have not had a case of plague in thirty years. We keep on examining rats, and this means a good deal of labor. We have examined several thousand rats and have never found a plague bacillus. Rats are found with plague before human beings contract it.

DR. RICHARD P. STRONG, Boston: When in doubt we should always send the stuff to Washington. A few examinations carefully made are worth more than a great many. The examinations on decomposed bodies are of no value.

Pathology and Etiology of Typhus Fever

DR. S. B. WOLBACH, Boston: Lice feeding on typhus patients were studied. It was possible to infect only a small number of lice from the patient. Inseparable from the infection was the finding of minute filamentous bodies in the gastro-intestinal tract of lice. These stained by Giemsa were nonmotile and could not be cultivated. The general evidence of infection consists in finding bodies consistent with Rickettsia in experimental lesions. While these have not been reproduced in culture, one cannot rely blindly on the laws of Koch, and valuable evidence can be obtained without cultures, in carefully controlled work with animals or intermediate hosts, known to contain the virus. The lesions caused by typhus virus are vascular, with proliferation of the endothelium of the vessels. This explains the lesions in the central nervous system. There is reaction of the neuroglia, and small nodules are formed throughout the central nervous system. The manifestations depend on the distribution of these nodules. Coma, delirium and death occur with extensive involvement, according to whether the lesion is located in the midbrain, medulla or cortex. Rickettsia organisms have been found in trench fever, as well as in typhus, but they are larger, extracellular and stain more deeply with Giemsa.

DISCUSSION

DR. A. D. HIRSCHFELDER, Minneapolis: Has Dr. Wolbach encountered fever or other manifestations as the result of individuals feeding apparently normal lice from an apparently normal source? When we were working on the development of substances to kill lice we had an experience which we did not find duplicated in the literature. Moore was feeding about 2,000 lice per day and came down with what seemed to be German measles when there was an epidemic of that disease. A few months later he had a second attack with a second rash. He had glandular enlargement with some fever. We then studied the effect of feeding lice on volunteer workers, and took careful records of the temperature. The lice were grown from eggs taken from the Minnesota lumber camps. Three out of four individuals developed fever and glandular enlargement, and we found an eruption similar to German measles. The fever came on within an hour after feeding. One individual who took exercise had a temperature of 103 F. Four individuals had slight fever without glandular enlargement. Three had fed lice during the previous summer and we thought that there was some phenomenon of hypersensitiveness to account for the three having a greater reaction than the four who had never fed lice before. We have been able to find fever as the result of feeding apparently perfectly healthy lice. The permanence of the reaction and substances indicated that it was not trench fever.

DR. EMANUEL LIBMAN, New York: Is there any relation between this organism and the bacillus of Plotz found in 53 per cent. of the endemic cases in New York and in 100 per cent. in Russia? It occurs early in the disease. You never find it in the blood in infected animals, but it occurs in the blood of human beings thirty-six hours after the crisis. The blood is then no longer infectious for animals. The organism is constantly found in typhus, but not after the blood has ceased to be virulent. In typhus fever there is a reaction against proteus X 19 that reaches a height at the crisis and then disappears. All the immune reactions are not present before the crisis; they are increased after the crisis, and are highest at the end of the second week. In guinea-pigs there is no complement fixation and no agglutination, but after the crisis in guinea-pigs and in human beings you can get the Dale reaction. Owing to accidents, the cross immunity tests could not be made. The Plotz bacillus is gram-negative, but becomes gram-positive later. Evidence so far shows that it is probable that Rickettsia are bacteria. Transfer the Plotz bacillus in the gram-negative state to fluid medium and you get an organism indistinguishable from Rickettsia. When you go back to the solid medium it is gram-positive. Those who grow Rickettsia from lice must prove that it is not the typhus bacillus.

DR. R. P. STRONG, Boston: From Dr. Wolbach's investigation we must regard Rickettsia as a group of micro-organisms, of which two species are pathogenic for man, one giving rise to typhus, the other to trench fever. There is a third species, apparently saprophytic for man, and there may be others occurring in the intestine of normal lice. There may also be parasitic ones.

DR. HIDEYO NOGUCHI, New York: There is an intracellular invasion by the organism, indicating morphologic changes. Trachoma bodies also have cell inclusions; when they enter the cells they seem to break off into minute granules. They take Giemsa stain. This may be a special group of organisms, not bacteria, but there are similar morphologic changes, in other organisms.

DR. HOMER F. SWIFT, New York: A similar experiment was performed with Rickettsia, by the British. The lice were placed on a patient with trench fever. Part of them were kept at a temperature of 30 C. Another group were kept at from 15 to 17 C. Those kept at 30 C. developed Rickettsia and the others did not. Both sets were infectious by the subcutaneous test; therefore Rickettsia may be a degeneration form of cells.

DR. S. B. WOLBACH, Boston: None of us had any ill effects from normal lice, from as many as 2,000. After completing controls to our own lice, we took lice from Polish people, collected from the public bath house. Mr. Baker collected these. He became ill. Before his illness we found Rickettsia in the lice. They were of the extracellular type. He had a typical case of trench fever. It was a matter of thirteen or fourteen days when the Rickettsia bodies began to appear. Mr. Baker, after his recovery, continued to infect clean lice with these bodies. We made one series of attempts to cultivate the Plotz bacillus in ascitic fluid. We got cultures in 50 per cent. Some were contaminations. The late stages of the disease showed a high percentage of streptococci. Our attempts were not adequate controls of Plotz' work. Dr. Libman land more stress on tinctorial reactions than we did. The Giemsa stain is a tricky stain. You can make it blue of pink according to the fixative used. There are some inconsistencies, but the Plotz bacillus and Rickettsia may prove to be the same organism. There is a sequence in the development of Rickettsia in lice that makes us regard it as distinct from ordinary bacteria. We found great difference in Rickettsia according to the degree of temperature. We have frequently reported sections as negative and later found a single cell infected with Rickettsia. Often there is a large form coiled in the cell. In the second stage, the bacillary form, the cell is enormously distended with minute forms. That is characteristic of the group. Bacot reported a similar organism in bedbugs in England. The filamentous forms in smear preparations stain bluish with Giemsa. They break up into granules. We did not go as far as that, except that we found the corresponding morphologic type. I think we might use the direct method of settling the question, by making a few experiments injecting the eggs. One worker found infected eggs in the Mexican typhus.

(To be continued)

MEDICAL SOCIETY OF THE STATE OF NEW YORK

One Hundred and Fifteenth Annual Meeting, held in Brooklyn, May 3-5, 1921

The President, DR. J. RICHARD KEVIN, Brooklyn, in the Chair

The Future of Medicine in America

DR. LEWELLYS F. BARKER, Baltimore: Progress in medical sciences is to a large extent dependent on advances in the underlying sciences of physics, chemistry, biology, psychology and sociology, and on the training of prospective medical students in these fundamental sciences. Special institutes for intensive work in psychology, sociology and psychobiology are urgently needed. If advances in the preclinical subjects are to continue, it will be necessary to make careers in these preclinical sciences more attractive to young men. While the development of specialties in medicine has brought with it special difficulties and disadvantages, on the whole the advances made in the clinical sciences by means of specialization have been astounding. That there will be a cessation of this tendency to specialization seems unlikely; on the contrary, the differentiation of workers will in the future, in my opinion, be even greater, for men have found that mastery comes through limitation of field, and concentration of interest and effort. Coincident, however, with this increasing division of labor, provision must be made for the synthesis of results of the special workers into harmonious wholes. For this integrative function men of wide training and sympathies, with comprehensive grasp, possessing the so-called encyclopedic type of mind will be needed more than ever before to sift the essentials from the nonessentials, to arrange, classify and reduce to manageable volume, the total results of all the special workers.

The value of the group method of diagnosis is now recognized. The problem of rural medical service remains to be solved, and the medical profession should set to work to solve it at once. It may be wise to have county hospitals and a motor service to care for the county. It seems likely that state medicine in one form or another is coming. Would it not be well for the medical profession to see to it that its beginnings should be such as are best suited for the welfare both of the public and of the medical profession? It is becoming ever clearer that in the future medicine will be largely preventive in function. It is safe to predict that there will be a great expansion of the United States Public Health Service and city departments of health throughout the country. Health centers with Red Cross support will soon be springing up everywhere.

JOINT MEETING OF SECTION ON MEDICINE WITH SECTION ON PUBLIC HEALTH, HYGIENE AND SANITATION

The Relation of the State Department of Health to the Medical Profession

DR. MATTHIAS NICOLL, Albany: The assumption that preventive medicine is the chief, if not the only, function of a health department is untenable. A health department should be interested in all matters involving the health, happiness and life of the people. Physicians are abandoning the rural districts. About eighty-three communities have appealed to the state department of health to send them a physician. As a remedy for this situation the health department, for the last two years, has introduced measures into the legislature designed as a possible solution of the problem. As a further remedy small medical schools should be fostered, encouraged and their financial needs provided for, since the men attending these schools are more likely to remain in small cities, towns and rural communities than the men from the universities. In the natural course of events it is quite doubtful if the average physician will be able to secure an adequate financial return in the cities, and inevitably he will be forced to seek smaller cities in the rural communities.

Group Consulation Clinic Experiment

DR. EDMUND C. BODDY, Rochester: In trying out the group consultation clinic it is doubtful whether the commissioner was actuated by the tendency of the practice of medicine to develop along the lines of socialization and group practice rather than to utilize those facilities that have already developed, namely, the state department of health, state department of education, state hospital commission, state commission for mental defectives, state charities aid association and American Red Cross. Six clinics were held in series of twos, differing from one another in the method of reaching the people and receiving patients. In the first two, popular publicity was used in advertising the clinic; admission was granted to all; the name of the family physician was secured, and the report of the examining physician forwarded to him. The second series was conducted with popular publicity, but a card of admission was required, signed by the attending physician, and all reports of examinations were forwarded to him. In the third series of clinics, publicity was omitted, except that directly among the physicians, who were invited to send to the clinic any patient on whose case they desired consultation. Many physicians who attended the clinics expressed themselves as well pleased with the idea and the service rendered; on the other hand, criticism was heard as to the benefits obtained. Some of these criticisms were based on a misconception of the experiment. Many who had much to say in favor of child welfare clinics, tuberculosis clinics, venereal clinics, etc., criticized the consultation clinics, which were simply a grouping under one administrative head of these various clinics. It is not maintained that the group consultation clinic in itself would answer all the needs of a community for adequate medical service, but rather that it would point the way by demonstrating to physicians and the general public how they might develop the idea, utilizing those agencies which exist in the community.

Studies on Experimental Measles

DR. FRANCIS G. BLAKE, New York: There has been induced in monkeys, by the injection of nasal washings, a group of symptoms which showed the characteristic phenomena of measles. This reaction has been successfully transmitted by nasopharyngeal washings, tissue emulsion and blood through a considerable series of animals, and the lesion has been shown to be histologically similar to measles in man. The development of immunity following infection was also investigated. It seems that one attack confers immunity against subsequent infection.

Intestinal Tuberculosis

DR. LAWRASON BROWN and MR. H. L. SAMPSON, Trudeau: Of 19,612 persons dying of tuberculosis in the state of New York, 3.5 per cent. were certified as having abdominal complications. Of eighty-nine consecutive cases studied at Trudeau, intestinal tuberculosis was found in 6 per cent. The symptoms of intestinal tuberculosis are diarrhea, or diarrhea alternating with constipation, pain, tender points in the abdomen, at times rigidity, irregular temperature with subnormal fluctuations, and marked nervousness. Digestive disturbances and failure of the pulmonary condition to improve are further evidences of intestinal tuberculosis. The finding of the tubercle bacilli in the feces is of little value. The bismuth meal and the roentgen-ray examination are valuable aids in the diagnosis of intestinal tuberculosis. Failure of the cecum to fill, with segmentation of some of the coils of the small intestine, and hypermotility are indications of intestinal tuberculosis. Colitis occurring in a tuberculous patient is nearly always a tuberculous colitis.

DISCUSSION

DR. J. W. DRAPER, New York: A study of 150 specimens of cecum removed at operation showed only 3 per cent. of tuberculosis.

DR. MARY D. ROSE, New York: The proper use of tuberculin may save some of these cases of intestinal tuberculosis which otherwise would be lost.

DR. LAWRASON BROWN, Trudeau: I have never seen a case of primary tuberculosis of the stomach. The source of infection in tuberculous peritonitis, I think, is from the sputum through the intestinal walls. It seems that the parts of the intestinal tract subjected to the greatest strain are affected first. We have found about 85 per cent. of intestinal tuberculosis at or around the ileocecal valve. In our series we had no primary intestinal lesion at all.

Nature of Hypertension

DR. HENRY A. CHRISTIAN, Boston: The chief factors in increasing blood pressure are: (1) Anything that decreases the peripheral stream or contracts the vessels raises the blood pressure; (2) any increased output of blood, other factors being equal, raises the blood pressure; (3) anything that increases the total volume of blood, other things equal, increases the blood pressure; (4) anything that increases the viscosity of the blood raises the blood pressure. Most observers regard the first and third as the chief factors in producing hypertension. Observations are in agreement with the idea that vasomotor spasm, kept up continually, may produce eventually organic lesion. If one accepts this theory, many cases of hypertension can be explained. On this theory one can explain why the blood pressure remains practically always above normal and why it rises or falls abruptly. All are agreed that the kidney can bring about this change through failure to eliminate toxic substances which remain in the blood; it is also quite generally agreed that other factors beside renal lesions may have this effect. I would, however, warn the endocrinologist against explaining high blood pressure on the ground of endocrine disturbance, since on this point nothing has been definitely proved. Infection probably plays a considerable part in producing these vascular changes. Possibly sodium chlorid does also, but because of its irritating effect on the vessel walls rather than because it draws fluid into the blood stream. Nervous strain must be accepted as another important factor. Hypertension has other causes than renal insufficiency. Its presence does not make the diagnosis of chronic or acute nephritis; its causes are probably not one but many. The mechanism is probably not the same in each case, but with certain variations lies in changes in the peripheral blood stream. It may be said that hypertension is due to disturbances in the peripheral cardiovascular system in much the same way as we say that fever is an indication of infection, and by the same token hypertension is just as little a disease as fever. If one assumes that the causes of hypertension are multiple, there will be no single way of treating every case; but there are a variety of therapeutic measures which, if applied to individual cases on a correct basis, will give satisfactory therapeutic results.

Symptoms of Hypertension

DR. ALFRED STENGEL, Philadelphia: A certain number of cases of hypertension fail to show renal inadequacy. The first symptom is fatiguability. This is perhaps a nervous symptom; it does not seem to be cardiac fatigue or reflex cardiac fatigue. Other nervous symptoms not so important are neuralgic pain in the upper spine and occiput, and severe headaches. There is a class of patients with hypertension who may exhibit temporary aphasia, unconsciousness, and apoplectiform seizures followed by temporary paralytic symptoms. It is difficult to say that in certain types of cases with apoplectiform seizures these are due to hypertension and not to an actual lesion in the brain. But these slight attacks of unconsciousness, followed by a little aphasia and temporary loss of power, and disappearing completely have only one explanation: that some vasomotor disturbance occurs as a result of the hypertension. Patients often have hypertension for a long time without symptoms; and when they begin to have symptoms they rarely begin with cardiovascular symptoms first, but with symptoms referable to the nervous system. When cardiovascular symptoms manifest themselves they are sometimes in the form of throbbing in the small vessels, but more frequently are referable to the heart and large vessels. Many cases of hypertension may be recognized with the finger on the pulse, and accentuation of the second aortic sound; however, accentuation of the second sound is not always marked. It is only by taking the blood pressure that definite evidence of hypertension is established. A large number of cases of supposed cerebral disease are probably not due to that condition but to disturbances of the circulation.

Treatment of Hypertension

DR. W. D. ALSEVER, Syracuse: There can be no established treatment of hypertension, since it is neither a disease nor a sign of a single malady. The quantity of food taken is more important than the kind. With mild hypertension, 25 or 30 calories per kilogram of body weight is often sufficient. The amount of protein should be limited to that necessary for good nutrition. Unless the kidneys are defective, enough water should be taken to keep the quantity of urine above 1,500 c.c. and the specific gravity below 1,020. In permanent hypertensions, the measures applicable to mild hypertension apply with added force, and further measures are indicated, such as lowered protein and caloric values, limitation of the quantity of salt to 2 gm. a day, and the giving of no more water by mouth than is excreted in the urine and stools. Mental overwork is more to be dreaded than physical fatigue. Tincture of aconite is the best drug for maintaining the blood pressure at a lower level. The d'Arsonval current will diminish hypertension, and is useful in emergencies, but should not be used as a substitute for regulation of the patient's life.

Points of Contact Between Some Surgical Conditions and Cardiac Disorders

DR. SAMUEL LEVINE, Boston: It is important to bear in mind the possibility of coronary thrombosis with cardiac infarction in patients presenting the picture of acute upper abdominal disturbance when it occurs in patients over 40 years of age. Most cardiac patients stand operation very well. A much more important decision to make is not whether the patient suffering from cardiac disease can stand operation, but whether the operation is indicated.

Diagnosis of Myocardial Disease

DR. HAROLD E. B. PARDEE, New York: Physical signs and symptoms cannot be depended on to make the diagnosis, nor can tests of the ability of the heart to perform work. Variations in electrocardiographic records are coming to tell more and more about the contraction of the muscle fibers of the auricles and ventricles. The different abnormalities of the record are not so much the result of different degrees of myocardial involvement as they are of different location of the process. This method of examining the heart should serve to correct our clinical diagnosis of myocarditis and to reduce the 52 per cent. or more of error due to diagnosing myocarditis when it is not.

Tuberculosis of the Pericardium

DR. WILLIAM W. C. MACLACHLAN, Pittsburgh: In a review of 1,000 case records from Dr. Oskar Klotz's department at the University of Pittsburgh, with reference to pericarditis in general, our findings are in close agreement with those of other observers. There were, among these 1,000 cases, ten cases of pericarditis which were frankly tuberculous: Of the debatable tuberculosis cases, there were forty instances of chronic fibrinous adhesions in the pericardial sac; of these, twenty-three were totally and seventeen partially adherent. Among these cases, three were undoubtedly tuberculous and five probably so. There was definite evidence to indicate that spontaneous healing of the tuberculous process in the pericardium undoubtedly occurred, probably more often than had been imagined. This material indicated that the development of lesions in the pericardium had little or no relation to the extent of the tuberculosis in other parts of the body. It was surprising to find but three cases of tuberculous pericarditis among twenty-three of general miliary tuberculosis.

Transient Myelosis in the Course of Acute Infectious Disease

DR. SIMON R. BLATTEIS, Brooklyn: A man, aged 45, gave a history of having just passed through an attack of influenza and possibly of endemic typhus. While under observation, his leukocyte count reached 100,000; myelocytes, 48 per cent., and eosinophils, from 10 to 14 per cent. There was an enlarged liver and spleen, and there were other findings suggesting myelogenous leukemia. The blood count returned to approximately normal and the symptoms cleared up. A study of this case leads to the conclusion that many so-called cases of leukemia are after all only cases of infection presenting an unusual leukocytosis. It is possible, however, that an early myelogenous leukemia may be set in motion by an acute intercurrent infection.

(To be continued)

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Obstetrics and Gynecology, St. Louis

April, 1921, 1, No. 7

Borderline Carcinoma of Cervix and Its Treatment. E. A. Weiss, Pittsburgh.—p. 661.
Some Factors that Determine Tissue Resistance to Cancer. J. E. Davis, Detroit.—p. 668.
*Preparation of Skin for Operation; Use of Picric Acid. H. W. Hewitt, Detroit.—p. 672.
Cases of Postoperative Convalescence Complicated by Faulty Functioning of Ductless glands. C. L. Bonifield, Cincinnati.—p. 677.
Treatment of Abortion Complicated by Sepsis. G. A. Peck, New Rochelle, N. Y.—p. 679.
*Analysis of Two Hundred Gynecologic Cases Treated with Radium at Woman's Hospital in New York State. E. W. Titus, Washington, D. C.—p. 685.
Case of Adenoma Hidradenoides Tubulare Destruens. E. Schwartz, New York City.—p. 695.
*Detachment of Adherent Placenta and Delivery in Abortion. C. E. Ruth, Des Moines, Iowa.—p. 700.
Female Pelvic Ureter. D. W. Tovey, New York.—p. 706.
Pathologic Leukorrhea and Its Treatment. F. Reder, St. Louis.—p. 710.
*Gynecologic Backache. E. A. Bullard, New York City.—p. 717.
*Appliance for Aseptic Vaginal Manipulations. O. E. Kuhn, Berkeley, Calif.—p. 721.
*Dermatitis Gangrenosa (Bullous) in a Newborn Infant. M. A. Tate, Cincinnati.—p. 724.
Five Cases of Tumors of Pelvic Organs. G. Van A. Brown, Detroit. —p. 726.
Congenital Absence of Vagina and Uterus. D. Hadden, Oakland, Calif.—p. 732.
Large Mesocolic Hernia Simulating Cholecystitis. I. Olmsted, Hamilton, Ont.—p. 733.

Picric Acid as Skin Antiseptic.—The staff of Grace Hospital, Detroit, has used a 6 per cent. picric acid solution in ethyl alcohol in 926 cases, and it is now the adopted method of skin preparation in that hospital. They had eight infections in 269 cases, or slightly less than 3 per cent. The merits of this method of preparation are that it is simple, cheap and efficient. It does not injure the skin in any way, and may be used on any part of the body; it does not injure the peritoneal coat of the intestine; it contains no proprietary preparation, and its antiseptic strength may be standardized.

Use of Radium in Gynecology.—In carcinoma of the cervix Titus says radium has proved itself to be the most dependable palliative in advanced cases; a reliable adjunct to surgery in the operable cases; capable of relieving pain and hemorrhage and prolonging life. In properly selected cases of myoma uteri it is a strong rival of surgery. In large tumors requiring operation, it will control hemorrhage and allow delay until there is an improvement in health. In intractable menorrhagia of young women it has solved a difficult problem. Mortality and morbidity in gynecologic practice has been reduced materially by the use of radium. Its power to prolong life and restore a certain number of individuals to a useful life, makes it an economic factor to the state. Titus suggests that radium may eventually remove carcinoma of the cervix from the domain of surgery.

Detacher for Adherent Placenta.—Ruth describes an instrument—a "detacher" which he has devised for the detachment of adherent placentae in cases of abortion.

Gynecologic Backache.—In a series of 721 cases of backache studied by Bullard, 85 per cent. of the patients were cured by an appropriate operation. About 15 per cent. of this series having one or more common gynecologic causes of backache present were not relieved of the backache by anatomically satisfactory operations. These cases suggest that perhaps 15 or 20 per cent. of all women with retroversion, prolapse, pelvic inflammations, obstetric lacerations, or pelvic tumors, do not have backache.

Instrument for Aseptic Vaginal Manipulation.—The object of the instrument devised by Kuhn is to provide a practical aseptic passageway through the vagina to the uterus during manual examinations by eliminating from the field, the vulva and vagina. The instrument consists of two parts; a glass tube and a thin rubber tube attached to a rubber shield.

Gangrenous Dermatitis in New-Born.—The case cited by Tate is of interest because of the extent of involvement and the rapidity of gangrenous spreading. Numerous bullae were present on the face and the body; the entire occiput was soft and flabby to touch; mouth and tongue were covered with mucous patches; there were gangrenous patches on both feet; the large toe on the left foot and the second on the right were undeveloped. The gangrene of the feet spread until it reached half way up the legs, involving the whole of both feet, and on close examination it gave a sharp line appearance as if a cord had been tied around them. On the left hand the first and fourth fingers were gangrenous, and the third finger partially so. The thumb and first finger of the right hand were partly gangrenous. The child died on the seventh day. It is believed that the condition was probably secondary to a syphilitic base.

American Review of Tuberculosis, Baltimore

April, 1921, 5, No. 2

*Sunlight and Artificial Light Therapy in Tuberculosis. E. Mayer, Saranac Lake, N. Y.—p. 75.
*Heliotherapy in Surgical Tuberculosis. C. L. Hyde and H. Lo Grasso, Perrysburg, New York.—p. 159.
Costs of Tuberculosis. L. I. Dublin and J. Whitney, New York.—p. 178.

Sunlight and Artificial Light Therapy in Tuberculosis.—This subject is reviewed by Mayer from every angle in order to reach a tangible conclusion as to the value of light therapy. From clinical experience with surgical tuberculosis, evidence points to the greater value of the ultraviolet rays, although it appears that the heat rays may also aid. Insufficient comparative and statistical studies on patients, especially on those with pulmonary disease, Mayer says, leaves much to be desired. In surgical tuberculosis in children excellent results have been obtained from sunlight in the treatment of bone, joint, skin and peritoneal disease. However, it seems better, especially in the lowlands, to remove débris (pus, sequestrums, etc.) first and then apply radiations. In disease of the genitourinary tract, eyes and larynx, only occasionally favorable results have been had. General exposures have given only slight and doubtful improvement in laryngeal tuberculosis. Sunlight in intestinal tuberculosis has only rarely given good palliative results, with cessation of abdominal pain and diarrhea. In tuberculous adenitis, probably better and quicker results are obtained in the infiltrative stage with the roentgen ray. In suppurating glands it seems better to excise radically, and follow up with solar exposures, although at high altitudes good results are obtained by aspiration followed by sunlight. Hilum tuberculosis in children seems especially suitable for light treatment. Rollier's results in surgical tuberculosis cannot be denied, but Mayer points out that the patients remain under his care for prolonged periods of time and orthopedic principles are carried out in great part. The part of air baths in these cases should also be given due credit. From a consideration of the results obtained with artificial light exposures, it appears that in surgical cases this means of radiation does not promise as much as sunlight, except in the handling of superficial tuberculosis, enteritis and possibly laryngitis. However, it may act as a fair substitute for sunlight in glandular, osseous, and peritoneal tuberculosis. Longer periods of radiation are necessary. In intestinal tuberculosis, exposures to the mercury arc have given palliative results, with cessation of abdominal pain, diarrhea, fever and bacilli in the stools. This appears to be a real indication for a trial of the lamp. The use of reflected ultraviolet rays in laryngeal tuberculosis is still in the experimental stage. In pulmonary cases, artificial light may act as a stimulator of metabolism and a psychic aid; or it may act by depleting, and then in turn causing an overfilling of the pulmonary circulation, this being the result of the cutaneous irritation which brings about a dilatation of the superficial vessels. In pulmonary disease the quartz mercury arc is less dangerous than sunlight and may help individual cases, but at present there are no satisfactory criteria for the selection of these cases. Any pulmonary case may be given a trial if only for the psychic effect. The results in some of these cases can prove favorable in the relief of symptoms. In general brunettes fare better than blondes. The quartz light seems therefore only an occasional aid for these cases and its advantages

should not be exaggerated. Sunlight in pulmonary cases, if employed at all, must be used very cautiously, with a careful selection of the patients, preferably the stationary types, well nourished, who have little or no fever. Brilliant results cannot be promised. The air bath probably plays a more important part in improving the vigor than has been realized. It must yet be proved whether other factors are not to be given greater credit. The action of light on ferments and so-called "antibodies" and other constituents of the blood, as well as its means of influencing the deeper organs, is mostly a matter of speculation up to the present. Mayer warns against becoming too enthusiastic because of isolated successes. Most of the favorable clinical reports of light radiation still rest upon empirical evidence. Scientific work has not yet offered any very helpful therapeutic results. However, it does not seem that light should prove an important means of treatment. An excellent bibliography is appended to this paper.

Heliotherapy in Tuberculosis.—After six and a half years' experience with this method of treatment, Hyde and Grasso have become convinced that much better results can be attained in these cases if the disease is not looked on by orthopedists and surgeons as a purely surgical one. This type of disease is nothing more than general constitutional with local manifestations and must be treated as such until surgical interference becomes imperative. The work done at the J. N. Adam Memorial Hospital is described. The favorable progress of the cure is in direct proportion to the intensity of the pigmentation of the skin. The degree of pigmentation is used as an index to prognosis. The most striking local result in the treatment of joint tuberculosis by heliotherapy, and the one of greatest importance and advantage in early cases, is the preservation of motion in the affected joint. The sun acts as an agent of repair on bone tissue. The effect on sinuses and ulcers is one of marked reaction. The effect on lymph nodes is a gradual reduction of their size, and in broken down nodes their contents are often absorbed. The effect on effusions in joints, peritoneum and pleural cavity is one of absorption. This is most noticeable in peritonitis.

Archives of Surgery, Chicago

May, 1921, **2**, No. 3

Reactions to Parenteral Introduction of Horse Serum in Man. F. B. Gurd, Montreal.—p. 409.
*Relation of Multiple Vascular Tumors of Bone to Myeloma. H. G. Wells, Chicago.—p. 435.
*Three Cases of Subperitoneal, Pedunculated Adenomyoma. T. S. Cullen, Baltimore.—p. 443.
Normally Developing Elbow. I. Cohn, New Orleans.—p. 455.
*Histogenesis of Malignant Tumors of Testicle. O. T. Schultz and D. N. Eisendrath, Chicago.—p. 493.
*Accessory Pancreatic Tissue. Report of Two Cases. E. J. Horgan, Rochester, Minn.—p. 521.
Deaths Occurring in Gynecologic Service of Johns Hopkins Hospital during 1919. H. N. Shaw, Baltimore.—p. 535.
Diverticulum of First Portion of Duodenum. E. K. Cullen, Detroit.—p. 542.
*Effect on Kidney of Various Surgical Procedures on Blood Supply, Capsule, and on Ureters. S. W. Harrington, Rochester, Minn.—p. 547.
*Tuberculosis of Bone. Results of Study. N. Allison, St. Louis.—p. 593.

Relation of Multiple Vascular Tumors of Bone to Myeloma.—In the case cited by Wells were found illustrations of two different pathologic processes in the involved bones. Although unquestionably the condition was one of multiple myelomatosis of the bones, yet some features seemed to correspond perfectly to what has frequently been described as either angiosarcoma or multiple endothelioma of bone. Therefore, a growth that begins as a myeloma may take on the characteristics of a neoplasm of vascular origin, with no remnants of the original tumor to be found in the entire bone tumor. As an explanation of the production of these highly vascular growths of embryonic type of blood vessels replacing tumors in the bones, these points are advanced by Wells: Because of the unyielding character of the osseous shell of the bone-marrow tumors, the growth of the tumor cells is more likely to shut off the blood supply and to produce necrosis than is the case in tumors located in other tissues. Following the necrosis, hemorrhage replaces the absorbed material, and organization of the resulting clot takes place. Because of the firm outer shell of intact bone, the organization does not follow the course usual in organization in other tissues, for the contraction and obliteration of the capillaries cannot take place. Instead, the new connective tissue becomes more or less edematous or of a myxomatous type, since it cannot contract to form scar tissue, and the new formed vessels persist in their large embryonal form, or even dilate with absorption of the clot, and later secondary proliferative changes of the intima of these blood channels may still further enhance the resemblance to an endothelial neoplasm. The observations lend support to the opinion expressed by others, notably Ewing, that many of the tumors described as multiple vascular endotheliomas of bone, and sometimes also as bone aneurysm, are really myelomas. This view is in harmony with the fact that myelomas are the chief form of multiple bone tumors, and that the frequency, if not the existence, of true endothelioma, is becoming less and less supported. It is, of course, probably that other bone tumors than myelomas may undergo the same sort of hemorrhagic necrosis and replacement by vascular new tissue.

Subperitoneal Adenomyoma.—Cullen is convinced that a diagnosis of subperitoneal, pedunculated adenomyoma of the uterus is impossible unless, perchance, a submucous adenomyoma has been previously expelled, and even then a subperitoneal nodule might be only a simple myoma. In one of Cullen's cases there was extension of the uterine mucosa into the muscle and in the other two cases there was a diffuse adenomyoma of the uterine wall. Cullen urges that adenomyomas should be removed as soon as discovered.

Histogenesis of Testis Tumors.—One case of tumor of the testis is reported by Schultz and Eisendrath and fourteen other specimens were examined. The fifteen tumors, all malignant, subdivide themselves thus: Five with definite heterologous structures, the atypical tissue being hypoblastic in character; three without heterologous elements, but with atypical tissue of the hypoblastic type; one without heterologous elements, but with atypical tissue probably of epiblastic origin; six spermatocytomas, all without heterologous tissue. Believing that tumors of hypoblastic or epiblastic type are derived from teratoma, the authors divide them into two groups, which will cover all the malignant tumors of the testis of clinical importance: I, embryomal carcinoma, and II, spermatocytoma. If extreme cases are omitted, the average age in the two groups is, respectively, 26.3 years and 42.6 years. The higher average age incidence of the second group is not due to a longer clinical duration of the tumors of this group; on the contrary, the rate of growth of the tumor is more rapid and the duration shorter in the second group than in the first. A new classification of these tumors is presented.

Accessory Pancreatic Tissue.—In a series of 321 consecutive necropsies in which the entire length of the intestine was opened in 314 cases, Horgan found accessory pancreases in two cases (0.6 per cent.). In one case the aberrant tissue was in the stomach; in the other, in the duodenum. In several instances, Horgan has observed accessory pancreatic tissue in the jejunum at operation. In one instance, it was about 3 inches from the ligament of Treitz opposite the mesentery, and it was necessary to go below it in order to perform a gastro-enterostomy. The author reviews the embryology of the pancreas in an effort to ascertain the cause of abnormally situated masses of pancreatic tissue.

Effect on Kidney and Ureter of Surgical Procedures.—The problems studied by Harrington have been classified into four series, and the phases investigated have been arranged in groups: 1. The effect on the kidney and ureter of complete sudden occlusion of the ureter or of complete sudden occlusion of the ureter and the collateral venous circulation. 2. The effect of occlusion of the various vascular radicals of the kidney. 3. The effect on the kidney and ureter of trauma to the ureter. 4. The effect of decapsulation of the kidney. For details the original should be consulted.

Tuberculosis of Bone.—The material collected during the treatment of fifty cases of bone tuberculosis was studied by Allison from the clinical standpoint, the cases used presented varying types of those manifestations usually associated with infectious bone lesions. In most cases, the symptoms and physical data made diagnosis of the tubercle bacillus as the etiologic factor a matter of no great difficulty. In some cases, diagnosis of tuberculosis was not made certain until the material obtained at operation was sectioned and studied micro-

scopically, and the confirmative evidence of animal inoculation was received. The pathologic process was found to be not essentially different in its manifestations wherever it may occur. If tissues are involved that possess the property of rapid proliferation when infected, this process will be observed when the tubercle bacillus is the agent. If tissues are involved which do not rapidly proliferate under infection, destruction will be observed when the tubercle bacillus is the agent. The process of tuberculosis, as it affects bone tissue of various types and joint structures, is one and the same. Variations are due only to the characteristics of the tissue infected. Allison regards it as unwarranted to classify this disease as to the type of reaction observed. He is opposed to the terms employed in the older literature as classifications, such as infiltrating, atrophic, caseous and hypertrophic tuberculosis of the bone. This is especially true of such descriptive terms as "chronic synovial tuberculosis" and "fungating" or "granulating tuberculous synovitis." His observations on this series of fifty cases incline him to believe with E. H. Nichols that the disease is primarily osseous.

Boston Medical and Surgical Journal

May 5, 1921, **184**, No. 18

*Vitamins in Milk. M. J. Rosenau, Boston.—p. 455.
*Review of Three Hundred Cases of Blood Chemistry. E. B. Bigelow, Worcester, Mass.—p. 459.
Need of Health Centers. E. V. Delphey, New York.—p. 463.
Possible Case of Nephritis in a Child, with Edema and Without Albuminuria. J. L. Morse, Boston.—p. 467.

Vitamins in Milk.—One of the newer facts recently disclosed is that milk is not equally rich in all vitamins, but contains these essential accessory dietary factors in variable amounts. The antiscorbutic value of milk depends almost entirely on the fodder of the cow. Human milk, no doubt, also varies with the nature of the mother's food, and in some instances is deficient, owing to eccentricities of diet or to poverty. The quantity of vitamins in plants probably varies with the soil in which they are grown and animals in turn suffer by lack of, or profit by richness of, vitamins in plant foods. Milk is usually rich in all three vitamins. It is unusually rich in fat soluble A, contains an abundant amount of water soluble B, and a variable, but ordinarily sufficient quantity of antiscorbutic vitamin. Therefore, it protects against all of the known deficiency diseases. It has long been known that the effect of heat on vitamins varies with the reaction and other factors. Most vitamins are more readily affected by heat in an alkaline medium than in an acid one. Fortunately, most foods are acid. Milk is acid from the time it leaves the udder. With regard to the effect of heat upon antiscorbutic vitamin, it has been shown that the duration of the heating process is of greater importance than the degree of temperature to which the food is subjected. Dry milk may retain its antiscorbutic virtue in spite of drying, canning and ageing, especially if well packed and hermetically sealed. It loses its potency after it is exposed to the air. Canned milks and dried milks, then, retain the fat soluble A and water soluble B vitamins in almost their original potency. The only vitamin in these preparations that may be affected is the antiscorbutic vitamin. The amount of this in canned milk will vary with many factors, primarily, the amount in the original milk, and, secondarily, on the process of heating and evaporation, with special reference to oxidation.

Diagnostic Value of Blood Chemistry.—Specimens of blood were obtained from 300 adult patients and examinations of 458 different specimens were made by Bigelow. The patients were nearly all hospital cases and seriously sick at the time of examination. The tests were made on selected cases only, in which the clinical condition at the time of examination suggested the possibility of findings that would be of assistance in diagnosis, prognosis or treatment. An estimation of the blood sugar, urea nitrogen and creatinin was made in each case. In general, these examinations, whether they proved to be normal or abnormal, were found to be functional tests of value in the fuller consideration of cases. Prognosis is extremely poor when there is a high retention of creatinin, and rather poor when a high urea retention. The determination of the alkali reserve is valuable in diabetes mellitus and to a lesser degree in nephritis. Repeated blood sugar determinations are invaluable as guides in the treatment of diabetes mellitus.

May 12, 1921, **184**, No. 19

Instruction in Climatology in Medical Schools. R. DeC. Ward, Cambridge.—p. 477.
*Hereditary Edema (Milroy's Disease). Report of Three Cases. C. F. Painter and H. C. Bean, Boston.—p. 479.
Results of Nerve Injuries Apparently Due to Birth Trauma. E. Friedman, Boston.—p. 482.
Goiter—Analysis of One Hundred Operated Cases. A. M. Rowley, Hartford, Conn.—p. 486.
Severely But Not Totally Disabled in Industry; Special Reference to One-Armed. L. Eloesser, San Francisco.—p. 489.
Administration of Ether by an Intravenous Method. H. Q. Gallupe, Boston.—p. 495.

Hereditary Edema.—Painter and Bean suggest the endocrine gland theory to account for this disease. If such cases are congenital, then there must be an inherited insufficiency or hypersecretion of some or all the endocrine glands. However, if this is the case, there should be other manifestations of the disorder. So far, the evidence is lacking.

Canadian Medical Association Journal, Montreal

April, 1921, **11**, No. 4

Art of Medicine. F. Brodie, Vancouver.—p. 237.
Résumé of Diabetes Mellitus. R. W. Mann, Toronto.—p. 243.
Diverticula of Urinary Bladder. E. R. Secord, Brantford, Ont.—p. 252.
Value of Fluoroscopy in Diagnosis of Abdominal Conditions. L. J. Carter, Brandon, Man.—p. 256.
Intestinal Obstruction from Gallstones. G. H. Clement, Vancouver.—p. 262.
Two Cases of Carcinoma of Stomach. F. N. G. Starr, Toronto.—p. 263.
Cases Illustrating Anomalies in Treatment of Gastric and Duodenal Ulcer. H. A. Gibson, Calgary, Alberta.—p. 269.
Case of Syphilitic Cirrhosis of Liver, Successfully Treated by Antisyphilitic Measures and Repeated Tappings. A. Schmidt, Montreal.—p. 271.
Malignant Disease of Lungs, Secondary to Carcinoma of Prostate. D. W. McKechnie, Montreal.—p. 272.

Florida Medical Association Journal, St. Augustine and Jacksonville

April, 1921, **7**, No. 10

Non-Surgical Drainage of Pathologic Gallbladders. G. M. Niles and H. N. Kraft, Atlanta, Ga.—p. 154.
Fatal Case of Pemphigus: Bullous Eruptions. J. L. Kirby-Smith, Jacksonville.—p. 157.
Internist and Surgeon in Relation to Acute Abdominal Diseases. R. R. Kime, Lakeland.—p. 159.
Nurse in Relation to Child Conservation. J. Van De Vrede.—p. 162.
Vaccine Treatment of Nephritis. G. H. Sherman, Detroit.—p. 166.

Georgia Medical Association Journal, Atlanta

April, 1921, **10**, No. 11

Surgical Kidneys. J. P. Proctor, Athens.—p. 375.
Implantations in Sunken Orbit After Enucleation of Eye. J. C. McDougall, Atlanta.—p. 379.
Diphtheria. C. A. Almand, Atlanta.—p. 382.
Posture in Puerperium. A. B. Patton, Athens.—p. 385.
Fractures of Lower End of Humerus Involving Elbow Joint. O. L. Miller, Atlanta.—p. 386.
Four Cases of Meningo-encephalomyelitis. D. H. DuPree, Athens.—p. 389.
History Taking in Infants and Children. W. W. Anderson.—p. 391.
*Case of Appendicitis Due to Oxyuris Vermicularis. R. B. Patrick, Waycross.—p. 394.
Case of Pulmonary Thrombosis. J. J. Clark.—p. 396.

Appendicitis Due to Oxyuris Vermicularis.—Eight mature threadworms were found by Patrick in the appendix of a girl, aged 11 years. The walls of the appendix were thickened and scattered over the mucous membrane were numerous small punctate hemorrhages. The first stool after operation was examined, and many eggs of the oxyuris were found. No threadworms were seen. From the vagina a greenish, purulent discharge was noted.

Johns Hopkins Hospital Bulletin, Baltimore

April, 1921, **32**, No. 362

*Dangers to Life of Severe Involvement of Thorax in Rickets. E. A. Park and J. Howland, Baltimore.—p. 101.
*Diphtheria Bacillus Carriers. W. L. Moss, C. G. Guthrie and J. Gelien, Baltimore, Md.—p. 109.
Studies with Lecithin and Cholesterin in Relation to Antihemolytic Property of Human Serum. H. M. Clark and F. A. Evans, Baltimore.—p. 113.
*Variations in Bacterial Flora of Upper Air Passages During Course of Common Colds. A. Bloomfield, Baltimore.
*Hemolytic Influenza Bacilli. T. M. Rivers and E. L. Leuschner, Baltimore.—p. 130.
*Experimental Observations on Bone Marrow. G. B. Wislocki.—p. 132.

Danger to Life of Rachitic Involvement of Thorax.—Examination of twenty-two children by Park and Howland proved that deformity and normal thoracic function are compatible, in other words, that the element of danger is not the deformity but the loss of rigidity of the thoracic well.

Diphtheria Bacillus Carriers.—Moss and his associates hold that a positive throat culture, an elevation of temperature and a pathologic throat condition without definite membrane formation are insufficient evidence on which to base a diagnosis of diphtheria with entire certainty. Virulence tests are necessary to avoid inflicting needless hardships on carriers of avirulent diphtheria bacilli.

Bacteriology of Common Colds.—On clinical grounds, the view was advanced that the common cold is an infectious disease analogous to influenza, featured by the frequent development of complications in the upper air passages such as sinus infections, tracheitis and otitis. A review of the literature by Bloomfield showed no convincing evidence that any known organism is the primary cause of the cold. The cultural studies fail to show in uncomplicated cases any variation in the flora which would enable one to select any organisms as the cause of colds. On the other hand, where clinical complications occurred pathogenic organisms were definitely associated with them. Bloomfield feels, therefore, that the primary cause of colds is probably an organism as yet unknown and certainly not one of the usual pathogens such as a streptococcus, pneumococcus, *B. influenzae* or staphylococcus. But the primary cold, whatever its final cause, alters the mucous membranes in such a way as to allow secondary bacterial invasion and consequent frequent development of local complications. The cultures clearly indicate that such complications are due to a variety of bacteria such as pneumococcus, streptococcus and staphylococcus.

Hemolytic Influenza Bacilli.—On account of the meager description given to the original *B. influenzae*, especially concerning hemolysis, it seems best to Rivers and Leuschner to regard both hemolytic and nonhemolytic aerobic, nonmotile, gram-negative, hemoglobinophilic bacilli as influenza bacilli, and disregard any such confusing terms as "Bacillus X" which in itself represents not one organism but a group.

Phagocytes in Bone Marrow.—Observations made by Wislocki show that the bone marrow of the rabbit contains cells which are extremely phagocytic toward inert particulate material afloat in the blood stream. Some of these are endothelial cells which line the vascular channels of the marrow, others are reticulum cells which form the supporting tissue for the blood-forming elements of the marrow. These phagocytes are present at birth. Microscopic examination reveals that the distribution of these phagocytic cells in the bones closely concides with that of the blood-forming elements. The cleared tissues of rabbits injected during life with carbon particles give an accurate picture of the gross distribution of the marrow. The amount of marrow in flat bones is in direct proportion to the amount of cancellous or spongy structure which the bone possesses.

Journal of Experimental Medicine, Baltimore

May 1, 1921, **33**, No. 5

*Superinfection in Experimental Syphilis Following Administration of Subcurative Doses of Arsphenamin or Neo-Arsphenamin. W. H. Brown and L. Pearce, New York.—p. 553.

Behavior of Bacteria Toward Gentian Violet. J. W. Churchman, New York.—p. 569.

Communal Activity of Bacteria. J. W. Churchman and M. C. Kahn, New York.—p. 583.

*Fate of Lymphocyte. C. H. Bunting and J. Huston, Madison, Wis.—p. 593.

*Relation of Antibody and Antigen to Serum Disease Susceptibility. G. M. Mackenzie and W. H. Leake, New York.—p. 601.

*Studies on Measles. III. Acquired Immunity Following Experimental Measles. F. G. Blake and J. D. Trask, Jr., New York.—p. 621.

*Studies on Blood Changes in Pneumococcus Infections. Formation and Fate of Methemoglobin in Blood. W. C. Stadie, New York.—p. 627.

Fibrin and Serum as Culture Medium. A. H. Ebeling, New York.—p. 641.

Flagellum of Micro-organism of Rat-Bite Fever. K. Adachi, Fukuoka, Japan.—p. 647.

*Immunologic Study of Stains of Bacillus Pfeifferi Isolated from Case of Meningitis. R. A. Anderson and O. T. Schultz, Chicago.—p. 653.

Incidence of Blackhead and Occurrence of Heterakis Papillosa in Flock of Artificially Reared Turkeys. H. W. Graybill, Princeton, N. J.—p. 667.

Superinfection in Experimental Syphilis.—The experiments reported on by Brown and Pearce consisted of the infection and treatment of two sets of rabbits—one with arsphenamin and the other with neo-arsphenamin—after which they were re-inoculated for the purpose of determining their susceptibility to a new infection as indicated by the production of lesions at the site of inoculation. From the facts presented, it is concluded that the existence of an infection with *Spirochaeta pallida* does not constitute a bar in itself to the introduction and propagation of a second infection in the same animal; that, just as there is a period following a first inoculation during which a second infection may be implanted with the production of characteristic primary lesions, conditions may again arise in animals which have once become refractory to a second inoculation, that will favor the introduction of a new infection with the formation of lesions presenting the characteristics of an original or first infection. In certain instances the treatment given had rendered infected animals more susceptible to infection than the normal controls.

Fate of Lymphocyte.—Although the count of circulating lymphocytes in the blood stream remains constant, more lymphocytes enter the blood from the thoracic duct during twenty-four hours than are present in the blood at any one time. According to Bunting and Huston this excess of lymphocytes is not destroyed in the blood stream. The cells migrate from the blood vessels into the mucous membranes and through them to their surface. This occurs chiefly in the gastro-intestinal tract, and it is apparently in the mucosa and especially within the intestinal lumen that the function of the lymphocyte is normally performed.

Relation of Antibody and Antigen to Serum Disease.—Studies by Mackenzie and Leake on nineteen patients to whom foreign serum had been administered for therapeutic purposes are reported. The results lend further support to the conception of serum disease as an antigen-antibody reaction. The possibility that the results indicate a factor which may be important in the mechanism of natural immunity is discussed.

Acquired Immunity Following Experimental Measles.—It is shown by Blake and Trask that monkeys which have recovered from experimental measles are immune to reinfection with the virus of measles, irrespective of whether the virus is of homologous or heterologous origin. In this respect experimental measles in the monkey corresponds with measles as observed in human beings, and the result is the same whether the virus is inoculated on the respiratory mucous membrane or is injected intravenously.

Blood Changes in Pneumococcus Infections.—In the occasional cases of pneumonia which show a decrease in the oxygen capacity of the blood, Stadie is of opinion that the decrease is probably due to a formation of methemoglobin. The latter is removed from the circulation, however, as rapidly as it is formed, so that it can seldom be detected even qualitatively, and is probably never a cause of cyanosis.

Immunologic Study of Pfeiffer's Bacillus.—Five strains of *Bacillus pfeifferi* were isolated by Anderson and Schultz from a case of meningitis. These strains came from the spinal fluid, blood, nose, throat and nasopharynx. Immunologic reactions show no definite relations between these strains, although those from the nose, throat and nasopharynx might be presumed to be related to one another. It is also presumable that the spinal fluid strain was derived from the upper air passages, and that the blood was invaded from the meninges. In spite of immunologic differences, it is believed that the five strains were genetically related.

Kentucky Medical Journal, Bowling Green

April, 1921, **19**, No. 4

*Prostatectomy J. H. Peak, Louisville.—p. 148.

Extensive Epithelioma of Face; Treatment of Basal Epithelioma. W. J. Young, Louisville.—p. 154.

Diagnosis and Treatment of Peripheral Nerve Injuries. B. F. Zimmerman, Louisville.—p. 160.

Clinical Significance of Wassermann Reaction. W. J. Young, Louisville.—p. 162.

Abduction Treatment in Fracture of Surgical Neck of Femur. C. C. Garr, Lexington.—p. 170.

Perthes' Disease (Osteochondritis Deformans Juvenilis.) Report of Case with Presentation of Patient. O. R. Miller, Louisville.—p. 172.
Extensive Tuberculosis of Hip Joint; Case Report. W. B. Owen, Louisville.—p. 174.
*Elephantiasis. W. H. Strother, Owensboro.—p. 175.
Co-ordinated Endeavor in Medicine Means Standardization and Efficiency. I. Abell, Louisville.—p. 176.
Harrison Narcotic Law. F. M. Stites, Hopkinsville.—p. 179.
Pulmonary Tuberculosis. J. A. Kirk, Owensboro.—p. 180.
Will Dieting Mother Influence Growth of Fetus in Utero? S. P. Oldham, Owensboro.—p. 182.
Radiotherapy in Malignancy. J. P. Keith, Louisville.—p. 184.
*Five Cases of Fecal Obstruction Due to Foreign Bodies Lodged in Intestinal Tract. A. D. Willmoth, Louisville.—p. 188.
Spread and Treatment of Syphilis. C. E. Harkey, Paducah.—p. 190.
Economy. C. V. Starks, Evarts.—p. 192.
Cancer Problem. W. Barrow, Lexington.—p. 193.
*Intestinal Obstruction. J. H. Caldwell, Newport.—p. 197.
Signs and Symptoms of Renal Tuberculosis. W. T. Briggs, Lexington.—p. 200.
Tonsils, Teeth and Nasal Accessory Sinuses as Source of Focal Infection.—J. A. Stucky, Lexington.—p. 205.
Diverticulum of Small Intestine. F. T. Fort, Louisville.—p. 208.

Prostatectomy.—Peak has performed 500 suprapubic and 300 perineal prostatectomies with only four fatalities and these followed the suprapubic operation. The first fatality occurred in a patient, aged 84 years, who never rallied from the effects of the anesthetic, and died the same afternoon, evidently from the anesthetic and the shock. The second patient was practically well as far as the prostatic operation was concerned and was about ready to leave the hospital, when pneumonia developed and he died at the end of the fourth week. The third patient was 18 years of age and had a rapidly growing fibrosarcoma of the prostate which was easily removed. Death occurred eight weeks after the operation from extension of the malignant process. The fourth died on the fifth day from exhaustion. He was 74 years old and very feeble, and would not permit the catheter to remain in position.

Elephantiasis in Native Kentuckian.—The case reported by Strother occurred in a negro, aged 45 years, a native of Kentucky who had never been outside the state. Twenty-five years ago he had syphilis for which he received treatment for a short time. In June, 1917, he had an attack of chills and fever, leaving him weak. His feet began to swell and, in February, 1918, the skin burst, discharging much serous fluid, after which he was unable to lie down in bed. He was unable to lie down for three years before he died. There was considerable ulceration and a very foul odor that was nearly unbearable. In appearance the case was one of elephantiasis involving both lower extremities up to the knee. Both legs were amputated above the knee. The patient died from shock, due to hemorrhage, on the ninth day.

Nonsurgical Treatment of Fecal Obstruction.—Willmoth warns not to open the abdomen too quickly in cases in which the history would lead one to suspect an obstruction of the intestine from ingesta. Repeated efforts with enemas will usually remove the obstruction. In the cases cited by Willmoth the obstructing agents were potatoes, grapes and popcorn. In one case a gallstone was the cause. It was removed from the intestine by operation.

Causes of Intestinal Obstruction.—In nine cases cited by Caldwell a variety of conditions caused the intestinal obstruction, such as a fibrous appendix which adhered over the cecum, causing a sharp kink in bowel and complete obstruction; appendix adherent deep in pelvis; pyloric obstruction by carcinoma of left kidney; perforated duodenal ulcer and general peritonitis; strangulated femoral hernia; carcinoma of lower end of sigmoid; intussusception of the ileum; a thick band of omentum adherent to the small bowel about 8 to 10 feet from the stomach, and a carcinoma involving posterior wall and lesser curvature of stomach, which was adherent to the under surface of the liver.

Medical Record, New York

May 7, 1921, **99**, No. 19

What About a Cure or Preventive of Tuberculosis? S. J. Maher, New Haven, Conn.—p. 769.
A Clinical Study of Tuberculosis in Children. A. Levinson, Chicago.—p. 773.
Extermination of Mammals. Their Economic Value, and Their Great Importance to Man Through Study of Their Comparative Anatomy. R. W. Shufeldt, Washington, D. C.—p. 777.
Concept of Roentgen-Ray Pathology. XIII. Enteropathy. A. J. Pacini Washington, D. C.—p. 782.
*Tetanus, with Recovery, Showing Some Unusual Features. B. L. Sulzbacher, Kansas City, Mo.—p. 786.
Two Cases of Acholuric Jaundice, Familial Type, with Splenomegaly. D. H. Hallock, Southampton, N. Y.—p. 787.
*Foreign Bodies in Abdomen. Report of Case of Eight Years' Duration. H. J. Hartz, Philadelphia.—p. 788.

May 14, 1921, **99**, No. 20

Problem of Psychopathic Hospital Connected with Reformatory Institution. E. R. Spaulding, New York.—p. 815.
Science of Logic Versus Influenza. J. J. Hurley, Boston.—p. 821.
What Constitutes a Fair Estimate of Loss of Use of Eye in Workmen's Compensation Cases? W. Mehl, Buffalo.—p. 826.
Tragedy of Abdominal Incision. J. W. Kennedy, Philadelphia.—p. 828.
Prognosis and Treatment of Pneumonia. L. Fischer, New York.—p. 829.
Concept of Roentgen-Ray Pathology. XIII. Enteropathy. A. J. Pacini, Washington, D. C.—p. 830.
Newer Technic for Deep Roentgenotherapy. J. T. Stevens, Montclair, N. J.—p. 834.
Case of Urologic Tuberculosis. M. Zigler, New York.—p. 835.

Cure of Tetanus.—The case reported by Sulzbacher emphasizes the necessity of a large dose of antitoxin, as an absolute phophylactic, and the advisability of immediate cultures, aerobic and anaerobic. A child, aged 21 months, was run over by a motor truck and sustained a severe injury of the leg, laying bare much tissue. Repair of the torn muscles was attempted and the child was given 500 units of tetanus antitoxin. Progress was not unusual until the fourth day, when the temperature rose to 104.8 F. after appropriate local treatment. The temperature fell approximately 5 degrees. On the afternoon of the fifteenth day beginning rigidity of the extensor muscle of the neck and the masseter muscles was noted with other signs of tetanus. Owing to the fact that a prophylactic dose of antitoxin had been given fear was held lest anaphylaxis might develop on its subsequent use. The patient was thoroughly tested with a small dose given subcutaneously and observed for one hour. No reaction having developed, a full dose of 5,000 units was administered, followed by doses of 1,500 units every eight hours. Chloral hydrate, 2 grains, was given at hourly intervals to control convulsions. The injections for the greater part were given subcutaneously and in the deep tissues of the wound. In all 14,000 units were used. Convulsions ceased within twelve hours and rigidity entirely disappeared in thirty-six hours.

Sponge in Abdomen.—A woman who had a fibroid tumor removed developed an umbilical hernia following immediately the operation. Eight years later the uterus, one tube and ovary, and a piece of omentum containing a mass were removed. Incision of the mass show it to contain a sponge, which was left in the abdomen at the previous operation eight years before.

Missouri State Medical Association Journal, St. Louis

April, 1921, **18**, No. 4

*Clinical Significance of Low Blood Pressures. G. H. Hoxie, Kansas City.—p. 113.
Aneurysm of Femoral Artery; Report of Case Operated by Obliterative Endoaneurysmorrhaphy. W. E. Leighton, St. Louis.—p. 115.
*Comparison of Influenza Epidemic of 1918, with that of 1920 at University of Missouri. D. G. Stine, Columbia.—p. 117.
*Use of Oxygen in Gynecologic Diagnosis. H. E. Happel, St. Louis.—p. 123.
Ultraviolet Ray in Treatment of Cutaneous Diseases. R. C. Lounsberry, Springfield.—p. 126.
*Case of Thoracopagus Delivered by Cesarean Section. E. H. Bounds and A. L. Shanks, Hannibal.—p. 127.

Significance of Low Blood Pressures.—Hoxie concludes that a blood pressure below 100 mm. of mercury, systolic, is abnormal, and that it indicates a lower efficiency of the blood. There are two types of low blood pressure: the one due to congenital conditions (the so-called temperament, diathesis, or constitution); the other due to endocrine exhaustion (this exhaustion being due to infectious diseases or overexhaustion and exposure). Of the endocrine glands, the ones most usually affected are those of the genital sphere. The suprarenals occasionally show involvement, but more usually it is the thyroid, and still less frequently the pituitary. The management of these cases demands a differential diagnosis between the two groups, and in the case of the congenital group, an explanation to the patients of the mode of life necessary for

them if they are to be even relatively efficient. In the other group of cases a patient search needs to be made for occult infections, and if these can be removed and an efficient tonic therapy instituted, the outlook for a return to the normal is good.

Camphor in Influenza.—In Stine's experience, camphor is the best drug with which to control the initial toxemia of the disease, and gives the best results in preventing and combating the secondary infections.

Use of Oxygen in Gynecologic Diagnosis.—Happel regards this method as being a safe and painless means of obtaining information which has been hitherto gained by laparotomy, a major surgical operation. It furnishes aid in diagnosis and prognosis, and should save women from numberless useless operations, such as dilatation and curettement, plastic operations on the cervix or shortening the round ligaments when the tubes are hopelessly obstructed.

Thoracopagus Delivered by Cesarean Section.—The fetus delivered by Bounds and Shanks had two perfectly formed heads, necks and shoulders with the thoracic portion of the bodies fused into one down to the umbilicus. From the umbilicus downward, the pelvis, hips and legs of both were normal. Both were females. In the back, where the fusion of the shoulders took place, was the right arm of one child with finger nails one-fourth inch long. This arm extended around the opposite child as if in embrace. The roentgen ray showed two distinct spinal columns. No postmortem examination of the viscera was allowed. The monstrosity weighed 12½ pounds.

Tennessee State Medical Ass'n Journal, Nashville

April, 1921, **13**, No. 12

Historical Data of Our Own Professional Men and Biographical Sketch of Thomas Crutcher Osborn. D. J. Roberts, Nashville.—p. 441.
Management of Summer Diarrheas. B. S. Veeder, St. Louis.—p. 447.
Central or Intracapsular Fractures of Neck of Femur. W. C. Campbell, Memphis.—p. 453.
Operative Treatment of Fractures. B. Malone, Memphis.—p. 455.
Gangrenous Tonsillitis; Report of Two Cases. O. Dulaney, Dyersburg.—p. 458.
Case of Brain Tumor Showing Value of Barany Tests as Early Diagnostic Methods. L. Levy, Memphis.—p. 460.
Barany Tests. J. J. Shea, Memphis.—p. 462.
Cases Showing an Unusually High Degree of Hyperopia. E. C. Ellett, Memphis.—p. 466.
Congenital Sarcoma of Orbit. E. B. Cayce, Nashville.—p. 467.
Plea for Early Removal of Hypertrophied Tonsils and Adenoids in Children. L. M. Scott, Jellico.—p. 468.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

April 23, 1921, **1**, No. 3147

*Postural or So-Called Static Deformities. A. S. B. Bankart.—p. 587.
Nature of Flutter and Fibrillation of Auricle. T. Lewis.—p. 591.
*Etiology of Rickets. D. N. Paton and A. Watson.—p. 594.
*Tuberculosis Immunizing Vaccine. N. Raw.—p. 594.
Surgery of Peripheral Nerve Injuries of Warfare. H. Platt.—p. 596.
*Herpes and Varicella. E. H. R. Barries and E. Dunderdale.—p. 600.
Chronic Suppurative Otitis Media: Followed by Left Temporo Sphenoidal Abscess and Meningitis. F. H. Diggle.—p. 600.
Lethargica Encephalitis Treated with Influenza Bacillus Antigen. W. M. Crofton and D. Costello.—p. 601.
Artificial Respiration in New-Born. W. O. Greenwood.—p. 601.
Olive Oil Soft Soap as a Shampoo in Pityriasis Capitis. K. W. Poole.—p. 601.
Congenital Deficiency of Diaphragm. G. S. Barnett.—p. 602.

Postural Deformities.—The principal cause of deficient postural activity Bankart says is mental fatigue or inertia. Temperament, environment, occupation and the general state of health are important factors. The child who sits badly at school and develops scoliosis is the child not with weak muscles, but with the overtaxed brain. This depends more on the mental capacity of the individual than on the actual amount of work done. A clever child may be tempted to compete with older children, while a dull child may be overworked in merely trying to reach an average or a low standard. In such cases, it is useless merely to introduce a course of exercises into the ordinary school routine. Either the routine should be radically altered or the child should be taken away from school.

Etiology of Rickets.—The observations of Paton and Watson show that pups kept in the laboratory develop rickets even on an abundant supply of milk fat (as much as 7.5 or even 11 gm. per kilogram) and oatmeal porridge, but that those on the same amount of separated milk (0.2 to 0.7 gm. milk fat) and porridge develop the disease more rapidly. The energy value of the separated milk diet was necessarily lower than that of the full milk diet (from 207 to 267 calories as against from 270 to 437 calories), and hence it is possible that a low energy intake may predispose to the disease, although it is not a causal factor. In young dogs, under ordinary laboratory conditions, liberal allowance of milk fat up to even 14 gm. per kilogram of body weight neither prevents the onset of rickets nor cures it when it has developed. Pups kept largely in the open air may escape the development of rickets on an intake of less than 1 gm. fat per kilogram body weight. With scrupulous care as to cleanliness it is possible to rear pups free of rickets in the laboratory on an intake of only about 0.5 gm. milk fat per kilogram of body weight, along with bread, provided that the diet affords an adequate supply of energy. The energy value of the diet, however supplied, quite apart from the presence of any hypothetic antirachitis factor in milk fat, would seem to play a part in controlling the development of rickets, but that it is only a contributory part is shown by the development of rickets in pups with a high energy intake when they are confined in the laboratory without scrupulous care as to cleanliness. Milk fat may be reduced to about 0.3 gm. per kilogram of body weight, if its place is taken by an equal amount of lard, without the onset of rickets. The results of these observations do not support the conclusion of the Accessory Food Factors Committee of the Medical Research Council that rickets is a deficiency disease due to lack of an antirachitic factor associated with milk fat.

Tuberculosis Immunizing Vaccine.—Since 1906 Raw has subcultured every month human, bovine and avian tubercle bacilli. The present growths represent the one hundred and eighty-fourth generation. The growths are still profuse and true to type, but they are quite nontuberculigenic and completely nonpathogenic to animals. Every year since 1906 Raw has injected these bacilli into animals with a view to testing their pathogenicity. Until the ninety-fourth generation of subcultures, no change in virulence was noted. After that time attenuation became marked, and in a year or two the cultures were avirulent. Treatment of disease by vaccines prepared from organisms attenuated naturally means that the production of antibodies will take place rapidly without any preliminary shock to the system such as invariably follows the injection of a vaccine prepared from a virulent strain of bacteria. With a view to elucidating the real amount of tuberculosis in man caused by the human and bovine types of bacilli, and also as to immunity produced by one infection toward the other, Raw instituted clinical observation on a large scale in a Liverpool hospital containing 900 beds, of which he had sole charge for eighteen years. In no case of primary pulmonary tuberculosis did he observe during the course of illness tuberculosis of bones, joints, glands, or skin, nor any instance of meningitis. Among the surgical cases of tuberculosis twenty-eight developed lung symptoms; twenty-five died. In all cases the infection of the lung was either by direct extension from cervical glands to the apex of the lung, or from a primary focus in the abdomen extending upward through the diaphragm to the bronchial glands and lungs. This large clinical experiment convinced Raw that the human body is attacked by two quite distinct forms of tuberculosis—the one conveyed from person to person by direct infection and attacking chiefly the lungs, or so-called consumption, and the other conveyed by milk from tuberculous cows, and developed in the first few years of life. These two diseases are caused by different types of tubercle bacilli which will not live in the body at the same time, and, what is of the highest importance, one disease produces immunity to the other. Hence Raw always uses a vaccine prepared from bovine cultures in the treatment of the human infections and vice versa. The vaccine which he has had

prepared from his attenuated cultures is a bacillary emulsion of the bacilli, and contains all the products of the bacillus. It is nontoxic and avirulent, and produces no reaction even in large doses. For purposes of immunization in susceptible children six injections are given at weekly intervals, and repeated in three months. The doses recommended are 0.001, 0.002, 0.003, 0.004, 0.005 and 0.006 mg. No symptoms whatever have been observed to follow these injections. In the treatment of the active disease the doses used are much larger than have been possible hitherto; it is recommended that the treatment should consist of at least twelve injections given in increasing doses at intervals of seven days. The doses commence at 0.001 and increase to a maximum dose of 0.025 mg. The vaccine should be freshly prepared from the cultures, and should not be used after one month. This vaccine, prepared as it is from avirulent cultures, can be used with complete safety in any stage of the disease, and even in advanced cases great relief from night sweats, toxic symptoms, and erratic temperatures has been noted. The results in suitable cases are excellent. Raw has succeeded in completely immunizing highly susceptible animals against tuberculosis by the use of attenuated cultures which have required fourteen years' subculturing in the laboratory, and he firmly believes that if all children with a tuberculous history could be safely vaccinated in the manner described they would be placed in a better position to resist infection at home.

Herpes and Varicella.—Harries and Dunderdale record an outbreak of varicella in a ward, apparently originating in a case of herpes zoster.

Dublin Journal of Medical Science

April, 1921, No. 14

Ventriculography. A. A. McConnell, Dublin.—p. 145.
Sacralization of Fifth Lumbar Vertebra. M. R. J. Hayes, Dublin.—p. 152.
*Operation for Treatment of Frequent Luxation of Shoulder Joint. E. J. R. Evatt, Dublin.—p. 161.
*New Method in Pituitary Surgery. A. K. Henry.—p. 163.

Operation for Frequent Luxation of Shoulder Joint.—Evatt describes an operation in which the joint is approached from behind. The part of the humerus which lies immediately behind the insertion of the teres major is exposed, and a hole, with a diameter of about three millimetres, is drilled horizontally through it by means of an Archimedian drill near the upper border of the teres major muscle. Similarly a hole is drilled through the axillary border of the scapula, immediately above the origin of the teres major. A fine silk suture is passed through the hole in the bone; a very stout cord of silk is now threaded through the loop of the fine suture, and by means of it is drawn through the hole in each of the bones in turn, the cord must be brought across on the deep or anterior surface of the scapular head of the triceps muscle. The arm is now straightened out and abducted until it forms with the body an angle of about seventy-five degrees; the cord is pulled taut and firmly tied, and the incision closed. The arm is bound to the side until the wound heals.

New Instrument in Pituitary Surgery.—An instrument has been devised by Henry which admits of sufficient intermittent control, by the taking of successive roentgenograms, to give an accurate means of access to the gland. By its aid capillary tubes containing radium emanation can be inserted directly into the tumor itself, or if desired, the fossa may be evacuated by a special auger-bit. Any manipulation is available which can be carried out through a tube, and instruments resembling those designed for use with the urethroscope, or cystoscope may be employed for this purpose.

Glasgow Medical Journal

April, 1921, 95, No. 4

*Etiology of Osteomalacia in Bombay. H. S. Hutchison and P. T. Patel.—p. 241.
Typhoid and Paratyphoid Fevers. A. J. Wilson.—p. 256.
Sequels of Influenza. M. F. Guthrie.—p. 267.

Etiology of Osteomalacia.—Hutchison and Patel are convinced that the large preponderance of osteomalacia among Mahomedan women in Bombay proves definitely that lack of fresh air and exercise is by far the most potent factor in the production of the disease. Examination of a considerable number of persons failed to disclose evidence to show that dietetic deficiency is a cause of osteomalacia, as the disease is not uncommon among the wealthier classes of the community; while among the poorer classes the deficiency of animal fat in the diet is common to all. There is no reason to believe that child marriage and prolonged lactation are important factors. The more or less sudden onset associated with fever in many cases and the rapid softening of the bones suggest a possible infective condition.

Lancet, London

April 23, 1921, 1, No. 5095

Loose Bodies in Joints. A. G. T. Fisher.—p. 839.
Nature of Flutter and Fibrillation of Auricle. T. Lewis.—p. 845.
*Permanent Drainage of Only Kidney. W. H. Battle.—p. 848.
Biochemistry of Germs and Other Proteins, with Special Reference to Problems of Immunity. D. Thomson.—p. 849.
*Basal Metabolism and Its Clinical Measurement. H. G. Earle and J. S. Goodall.—p. 853.
Case of Tuberculous Salpingitis. E. Drybrough-Smith.—p. 854.
*Case of Transfixion by Steel Rod. N. C. Lake.—p. 855.

Permanent Drainage of Only Kidney.—Battle is convinced that his case goes far to show the superiority of the operation of nephrotresis as the one of choice when the ureter has been badly injured and the circumstances make it impossible to re-establish the channel by any method of ureteroplasty. His patient has worn a silver tube for five years. This tube fits closely at a point corresponding to the lumbar fascia, but is easily taken out and replaced. The skin around is healthy, dry and without any trace of irritation. There is no leakage by the side of the tube which is removed, cleaned and easily replaced daily. There was no urinous odor. The patient is well.

Kymograph Attachment for Benedict Metabolimeter.—So as to overcome certain objections Earle and Goodall have devised a kymographic attachment for the Benedict apparatus using glazed paper and a pen, whereby a permanent record in ink of the whole test is obtained, as in the case of a polygraph. With the kymograph clock traveling at a known speed and a scale similar to that attached to the apparatus the oxygen absorption can be determined from the record at any point of the test. Further, valuable information is obtained of the character of the respirations in respect of depth, frequency and regularity, and any hyperpnoea, such as might be caused by deficient carbon dioxid absorption is at once detected. An attachment like this can be made with very little additional cost, and by using glazed paper which can be kept rolled, the kymograph can be reduced in size and the inconvenience of smoking and varnishing avoided.

Transfixion of Body by Steel Rod.—Lake cites the case of a man who was working at the bottom of an elevator shaft, when a steel rod, ½ inch in diameter and 54 feet long, weighing 34½ pounds, fell vertically from a height of 50 feet. The rod entered his body just behind the left shoulder and made its exit at a point on the inner aspect of the right knee. When about 9 feet of the rod had passed through and embedded itself in the ground below, its career was arrested. Between three and four feet of the rod traversed the man's body, while about forty feet projected above. On admission to hospital he was suffering from considerable shock, recovery from which was, however, rapid. After passing through the posterior aspect of the left lung the rod penetrated very obliquely through the bodies of three or four vertebrae in the lower dorsal and upper lumbar regions. Leaving the vertebral column in the right lumbar region the rod could be felt below the pole of the right kidney and just behind the inferior vena cava. At this point it passed for about half an inch into the peritoneal cavity without causing any damage, and again became extraperitoneal by penetrating the psoas muscle. It appeared to leave the abdominal cavity by drilling a hole through the brim of the pelvis behind the acetabulum, and having passed down the back of the thigh, guttered the internal condyle of the right femur before leaving the body. A light screw thread was tapped on the lower end of the rod, the stock being used as a convenient handle for traction. The upper end of the rod having been sterilized, traction was applied in the direction of the curva-

ture on the rod, which was thus slowly removed while a close watch was kept for internal hemorrhage, etc. The shock of removal was very great but yielded to appropriate treatment. Examination of the patient since the operation has revealed no signs of any extensive nerve injury nor damage to other important structures. The patient made an uneventful recovery.

April 30, 1921, **1**, No. 5096

*Actinomycosis; Especial Reference to Vaccine Therapy. L. Colebrook. —p. 893.
Production of Bactericidins by Micro-Organisms. J. W. McLeod and P. Govenlock.—p. 900.
Mobile Ascending Colon. E. R. Flint.—p. 903.
*Experimental Investigation into Action of Certain Electrical Treatments; on Blood, Blood Pressure and Metabolism. W. Bain, W. Edgecombe, W. S. Kidd and S. Mil'er.—p. 905.
*Delayed Manifestations of Syphilis, Including Report of a Case of Syphilitic Duodenal Ulcer. H. Spence.—p. 908.
Case of Acute Phlegmonous Gastritis. F. W. Eurich and J. Phillips.—p. 910.
Gangrene Due to Carbon Monoxid Poisoning. V. D. Thandavaroyan. —p. 910.

Vaccine Therapy of Actinomycosis.—Colebrook has treated about twenty-three cases of actinomycosis with vaccines always in association with simple surgical measures. In all cases a vaccine prepared from strains of *Actinomyces bovis* of human origin was employed, and most of them received in addition other vaccines corresponding to their respective secondary infections. Autogenous actinomyces vaccines were used for eleven cases, most of the remainder being treated by a polyvalent stock vaccine. Generally he has commenced the treatment with doses of 2 or 2½ million fragments at intervals of five days, and gradually increased the quantity as guided by the progress of the patient. The best results have usually been obtained with doses of from 4 to 10 million fragments. In a few cases which were not improving on smaller doses the quantity has been considerably increased—in one case to 75 million fragments—but without any apparent advantage. As a rule, there was no constitutional disturbance of any kind, the actinomycotic focus showed no increased congestion, and at the site of inoculation there was no appreciable reaction. Colebrook believes that the treatment of actinomycosis by vaccines facilitates recovery when efficient surgical drainage of the affected tissues is secured and maintained; when, however, drainage is unsatisfactory, the use of appropriate vaccine will not usually suffice to stay the progress of the infection. This may be due, in large part, to the blood stream having very little access to those lesions by reason of the zone of "wooden" induration which habitually surrounds them.

Action of Electrical Treatments on Blood and Blood Pressure.—The net results obtained from the d'Arsonval high-frequency current were a slight but definite reduction in systolic and diastolic blood pressures; a temporary trifling loss of hemoglobin; a more enduring fall of leukocytes; an increase in output of urea, followed by an increase in the excretion of total nitrogen. The clinical claims made that this form of electrical treatment reduces the blood pressure and stimulates metabolism are substantiated to a moderate extent by these results. The diathermic current causes a slight fall in systolic blood pressure, an increase in leukocytes, and an increase in urea and ammonia nitrogen. The local heat-producing effects tend to substantiate its clinical use in promoting the absorption of local inflammatory products. As to the Bergonie treatment, the current without heat causes a slight rise in hemoglobin value; when heat is added a marked fall takes place. The blood pressure is markedly raised by the current alone to an extent which suggests caution in the employment of this form of treatment in subjects of obesity with a high blood pressure. The addition of heat neutralizes the rise and converts it into a slight fall, a fact which favors the employment of heat in addition to the current in these cases. Conversely in cases requiring sweating baths, in which a fall in blood pressure is undesirable, this effect of heat may be prevented by the simultaneous use of the rhythmic current.

Syphilitic Duodenal Ulcer.—Spence reports a case of syphilitic duodenal ulcer in which a cure was effected by treatment with arsphenamin, mercury and potassium iodid. Both the diagnosis and the cure were confirmed roentgenographically.

Tubercle, London

April, 1921, **2**, No. 7

Tuberculous Hip Disease and Its Simulants. H. Sundt.—p. 289.
*Pathology of Mediastinal Glands in Tuberculosis. S. R. Gloyne.—p. 300.
*Scheme for Dealing with Ambulant Cases of Pulmonary Tuberculosis. F. G. Collins.—p. 306.

Pathology of Mediastinal Glands in Tuberculosis.—The number of glands draining the lung tissue appears to be subject to considerable variation. The average number found by Gloyne in careful dissections of eight cases were: tracheal, 9; interbronchial, 35; bifurcation, 5; superior mediastinal, 10. In each case these figures represent right and left sides added together. Both mediastinal and cervical glands were found to contain histologic tubercles in cases where no naked-eye lesions were apparent. There was not sufficient variation in the severity of the microscopic lesions to demonstrate the line of march of the tuberculous infection along the chain of mediastinal glands. Roentgenograms of glands showing calcareous nodules were readily distinguishable from those showing anthracosis, caseation, microscopic deposits of tubercle or malignant disease, by reason of the extreme density and sharp outline of the shadows produced by the calcareous deposits. The shadow produced by the other substances named did not afford sufficient differentiation to warrant any conclusions.

Recreation Centers for Treatment of Ambulant Tuberculosis Patients.—Collins suggets that tuberculosis recreation centers should be established in populous districts. The site for such centers should be some carefully selected open space within the district and, if possible, easily accessible from all quarters. The center should be under medical supervision, and the rest and exercise of the patients attending there suitably regulated, and every endeavor made to map out roughly their daily life. Care would have to be that the recreation center or day colony did not in any way supplant the sanatorium for early cases or the hospital for advanced cases.

Archives des Maladies de l'Appareil Digestif, Paris

1921, **11**, No. 2

*Gastric Ulcer Suggesting Tabetic Crises. R. Savignac and A. Alivisatos.—p. 73.
*Intervisceral Ganglion. S. Gil Vernet and F. Gallart Monès (Barcelona).—p. 105.
Fate of Amylase in Large Intestine. E. Bianchi.—p. 122.
*Acute Postoperative Esophagitis. F. Moutier.—p. 126.

Gastric Ulcer Suggesting Tabetic Crises.—Savignac and Alivisatos add three more typical cases to the six on record in which a chronic gastric ulcer deceptively simulated the gastric crises of tabes. In the intervals between the attacks there were scarcely any symptoms. The ulcer is on the lesser curvature and induces chronic neuritis, and the patients in this group are always of a neuropathic temperament. Treatment should be more rigorous and kept up longer than with the common forms of gastric ulcer, and operative measures should be considered earlier. The violent pains and profuse, uncontrollable vomiting and the sudden onset and subsidence differ from the gastric crises of tabes only in that they are accompanied by the usual physical signs of gastric ulcer, and also in the benefit from repose, milk diet, bismuth and belladonna or alkalines.

Ganglion Connecting Digestive and Genito-Urinary Organs.—Gil Vernet and Gallart give an illustrated description of what they say is a hitherto undescribed ganglion at the emerging point of the inferior mesenteric artery. It connects the innervation of the digestive tract with that of the genito-urinary organs. This ganglion seems to correspond to the inferior mesenteric ganglion in animals, and it may be the center for vesicorenal, renorenal, urogenital, and reno-intestinal reflex action.

Acute Postoperative Esophagitis.—Moutier refers to injury from the anesthetic, reporting three cases, all in women, who had swallowed the fumes of the anesthetic, almost every inspiration having been followed by a spasmodic swallowing. There was no postoperative vomiting, but signs of esophagitis developed about the twenty-fourth hour, with intense salivation and lacrimation, severe pain in the esophagus, and dysphagia. The symptoms reached their height the fourth day, and all had subsided by the end of the week. Treatment

was with subcutaneous injection of 0.00025 gm. of atropin on two successive days and every two or three hours a large glass of a decoction of linseed containing a teaspoonful of bismuth carbonate and a little magnesium carbonate.

Archives de Médecine et de Pharm. Militaires, Paris

February, 1921, **74**, No. 2

Psychoses in the Army. M. Briand and A. Rouquier.—p. 143.
Epidemic Encephalitis Simulating Multiple Sclerosis. Trabaud.—p. 184.
Epidemic Encephalitis; Seven Cases. Jourdin.—p. 188.

Bulletin Médical, Paris

April 16, 1921, **35**, No. 16

*Recent Therapeutics. G. Lyon.—p. 311.
*Hemoclasis and the Benzoin Reaction. P. Gastinel and P. Jacob.—p. 315.

April 23, 1921, **35**, No. 17

Indications and Formulas for Certain Drugs Useful in Dermatology. Noyrières and Ferreyrolles.—p. 335.

Recent Therapeutics.—Lyon reviews contributions in the line of vaccines, serums and organotherapy, as well as physical agents. He cites Sézary to the effect that tabes seems to be losing its gravity since the introduction of arsphenamin.

Hemoclasis and the Benzoin Reaction.—This communication analyzes the recent literature on the hemoclasic crisis and the colloidal benzoin reaction. The latter is never positive in herpes zoster, and with tuberculous meningitis precipitation never occurs until the fifth tube and continues until the eleventh or twelfth. This forms a zone of reactions special to tuberculous disease of the pia, and may aid in differentiation. A normal fluid never shows precipitation unless, exceptionally, very slight in the sixth to eighth tube. In syphilis, precipitation occurs in all the first tubes, and with general paresis the reaction is obtained in the first and up to the tenth tube. Otherwise it parallels the Wassermann reaction.

Bulletin de l'Académie de Médecine, Paris

April 12, 1921, **85**, No. 15

*Pupil Sign of Pulmonary Tuberculosis. E. Sergent.—p. 448.
Chronic Puerperal Septicemia. Jouin.—p. 459.
Comparison of Strophanthin and Ouabain. A. Richaud.—p. 461.

Pupil Sign of Incipient Pulmonary Tuberculosis.—Sergent remarks that even when the nerve fibers dilating the pupil are not modified enough by the toxins from the tuberculous apical process for mydriasis to occur spontaneously, it can be induced by instilling 2 drops of a 1 per thousand collyrium of atropin. Applying the test alike to both eyes, a more pronounced or more durable response in one eye suggests apical disease on that side. In 10 normal persons, the reaction was always alike in both eyes. In 18 cases of a unilateral tuberculous apical process, this sign was clearly positive in 11 but was negative in 3 long completely healed cases. Preexisting myosis in the other cases reversed the response to the test, the homologous mydriasis occurring tardily and faintly. In 22 suspects, the response to the induced mydriasis test cleared up the diagnosis. Besides these pupil signs of homologous apical disease, there may be characteristic enophthalmos or exophthalmos.

Bulletins de la Société Médicale des Hôpitaux, Paris

April 8, 1921, **45**, No. 11

*Treatment of Syphilis. L. Queyrat.—p. 446.
*Typhoid Bone and Joint Disease. P. E. Weil.—p. 449. Idem with Vaccine Treatment. Sicard and Robineau.—p. 465.
Malformation of First Sacral Vertebra. A. Léri and Engelhard.—p. 454.
Schick Reaction in Prophylaxis of Diphtheria. P. Armand-Delille and Marie.—p. 456; Idem. H. Méry and others.—p. 458; Idem. P. Lereboullet and P. L. Marie.—p. 460.

Treatment of Syphilis.—Queyrat warns that the arsenics used in treatment of syphilis are liable to contain more or less of a substance which is twenty times more toxic than arsphenamin. He urges that the manufacturers should be obliged to state on the label the content of this toxic substance, *amino-oxyphenyl-arsenoxyde*. He thinks that this may have been a factor in some of the disturbances reported. In case of mishap, he urges prompt venesection and instillation by the drip method of 1,000 or 1,500 gm. of physiologic solution with glucose. Epinephrin should be given daily, up to 5 or 6 mg., he adds, ascribing the nervous accidents to malfunctioning of the suprarenals. Lumbar puncture is also required, but the main indication is to give mercurial treatment to check the action of the disease on the nervous centers. Pinard mentioned that the "serous apoplexy" occurs usually only in the young, toward the second or third injection of a series, possibly from reactivation of the disease in the form of a syphilitic meningitis.

Vaccine Therapy of Typhoid Bone Disease.—Sicard and Robineau report six cases with spontaneous recovery and seven in which recovery was accelerated by vaccine treatment. The combination of surgical measures with autogenous vaccines is usually promptly effectual. Rathery has reported great benefit from direct injection of antityphoid serum into the focus of typhoidal periostitis, especially spondylitis.

Gynécologie et Obstétrique, Paris

April, 1921, **3**, No. 4

*Castration for Male Pseudo-Hermaphrodites. L. Bérard and C. Dunet.—p. 225.
Benign Uterine Adenomas of Decidual Type. K. Moukayé.—p. 233.
*Genital Prolapse. H. Hartmann.—p. 245.
Organization of a Maternity. J. Henrotay.—p. 257.
*The Blood in Puerperal Infection. P. Couinaud and R. Clogne.—p. 265.
*Decapsulation of Kidney in Eclampsia. A. Brindeau.—p. 275.

Castration for Male Pseudohermaphrodites.—Bérard and Dunet removed the diseased appendix in an androgynoid pseudohermaphrodite, removing the adjacent testicle as well. The latter proved to be so atrophied that they regretted not having removed its mate at the same time, and present arguments to show the advantages of this in all such cases. The sexual glands are of such inferior structure that their loss will not entail any functional deficit, while their retention exposes to danger of malignant degeneration. They quote some recent statistics which show that about 84 per cent. of cancers of testicles develop in ectopic testes.

Genital Prolapse.—Hartmann reviews the multiple factors that have to be regarded, in different cases, for correction of the prolapse to be effectual.

The Blood in Puerperal Infection.—Couinaud and Clogne expected to find a higher urea content of the blood at and after delivery in both the normal and pathologic cases. The analysis of eighteen cases, however, showed that the urea content of the blood kept within normal range in all the normal cases. Exaggeration of the blood urea, with high proportion of residual nitrogen, was found only in infected cases. They discuss whether this is due to the kidneys or to the liver, adding that functional tests of the liver may usefully supplement chemical examination of the blood in prognosis. It seems to be the rule that azotemia may be expected in acute medical infections; the severer, the graver the condition.

Decapsulation of the Kidney in Eclampsia.—Brindeau urges to try decapsulation of the kidney in eclampsia rebellious to other measures in cases in which the kidneys seem to be blocked and the uterus has been emptied. Evacuation of the uterus may relieve the kidneys without decapsulation.

Lyon Médical, Lyons

April 10, 1921, **130**, No. 7

Balance-Sheet of Intraspinal Anesthesia. P. Santy.—p. 293.

Journal de Médecine de Bordeaux

March 10, 1921, **92**, No. 5

Hydatid Cyst in Brain. Anglade.—p. 119.
*"Oyster Shell" Fracture of Patella. R. Villar.—p. 121.
Strangulation of Hernias of Large Intestine. Fournier.—p. 124.
Iodin Treatment of Epidemic Encephalitis. Boudreau.—p. 126.
Education of Sense of Touch. H. Grenier de Cardenal.—p. 129.

"Oyster Shell" Fracture of Patella.—Villar reports a case in which the patella was split vertically by a shell, the cleavage separating the front from the back. He knows of only three similar cases on record.

Journal de Radiologie et d'Electrologie, Paris

February, 1921, **5**, No. 2

*Gonococcus Rheumatism. Costa and Garcin.—p. 49.
Gallstones in Common Bile Duct. P. Duval and H. Béclère.—p. 57.
*Protection Against Radium Rays. A. Félix.—p. 61.
*Roentgen Treatment of Myoma. A. Béclère.—p. 67.

Gonococcus Arthritis.—The roentgenograms given of several cases of chronic gonococcus arthritis show that the tendency of the bone is to osteoporosis, just as tuberculosis tends to necrosis.

Protection Against Radium Rays.—Félix gives illustrations of various measures for protection, and insists on the necessity for their use, especially refraining from touching the radium tubes with the fingers, always using a protecting forceps. The table is protected with a 2 cm. sheet of lead with a square upright extension reaching to the shoulders. Behind this the operator sits in manipulating the radioactive substances. The benefit from distance should always be borne in mind.

Roentgen Treatment of Myoma.—Béclère describes the technic and method for roentgen-ray sterilization of the ovary at a single sitting, but does not approve of it. Moderate doses at appropriate intervals form a far safer and more effectual method, he thinks, except when the anemia is so extreme that further loss of blood must be prevented at any cost. Even with this, however, it is not always certain that complete amenorrhea can be realized at a single sitting.

Paris Médical

April 16, 1921, **11**, No. **16**

Direct Fracture of the Calcaneum. L. Moreau.—p. 305.
*Fatigue Charts. H. Dausset and Boigey.—p. 313.

Fatigue Charts.—Dausset and Boigey comment on the aid afforded in physical training by keeping charts showing the onset and effect of fatigue. They describe with illustrations their method for this.

Presse Médicale, Paris

April 9, 1921, **29**, No. 29

Pathogenesis and Semeiology of Bronzing. A. Sézary.—p. 281.
*Bone Implants in the Spine. A. D. Radulesco.—p. 284.
The Toxins of Helminths. J. Rouillard.—p. 285.

Bone Implants in the Spine.—Radulesco gives an illustrated description of his method of splitting the spinous processes in the diseased vertebrae in Pott's disease in adults. He splits them on the median line, exposing the marrow, and fits between the gaping edges a strip of bone with periosteum, taken from a rib, comprising half of the rib. The outcome was fine, he says, in his seven cases, all with severe spinal cord symptoms. In only one has the preexisting paralysis persisted. He used a circular saw mounted on an electric drill.

April 16, 1921, **29**, No. 31

Inaugural Lecture of Pathology Course. P. Lecène.—p. 301.
*Corpus Luteum in Vomiting of Pregnancy. L. Cheinisse.—p. 307.

Extract of Corpus Luteum in Treatment of Vomiting of Pregnancy.—Cheinisse summarizes recent works on this subject in THE JOURNAL and elsewhere, and reiterates the warning that a goiter is an absolute contraindication to this form of organotherapy.

Progrès Médical, Paris

March 19, 1921, **36**, No. 12

*Strychnin Treatment of Melancholia. P. Hartenberg.—p. 123.
Medical Responsibility. Garçon.—p. 124. Conc'n.
Syphilitic Lesion in Caudate Nucleus. Loeper and Forestier.—p. 126.

Strychnin Treatment of Melancholia.—Hartenberg reports the complete cure of melancholic depression in five adults and the nearly complete cure in a sixth case, all treated by strychnin in large doses. The effect does not begin until after 0.05 gm. of the alkaloid have been taken—this requires about a month—and the drug has to be pushed to the limit of tolerance. It takes up to 0.07 or 0.08 gm. to saturate the nervous system. This seems to create a sort of organic shock which rouses from the torpor and restores the patient to normal life. The drug is rapidly eliminated. He gives it in a 1 per cent. solution of strychnin sulphate, 7 drops three times a day at five hour intervals, and increases the dose by 1 drop every day until dizziness, and stiffness of limbs and jaws indicate strychninism. He keeps at the same dose until this reaction has disappeared, and then continues as before. One man of 30, with melancholia and stupor, was restored to normal condition in six weeks. The only partial failure was in a woman with a constitutional tendency to worry. This persisted after the melancholia had subsided. He explains that as strychnin has such a powerful action on the centers of vegetative life, its success is easily understood in melancholia which, he says, is a *maladie de l'affectivité et de la cénesthésie.*

Revue Franç. de Gynécologie et d'Obstét., Paris

January, 1921, **16**, No. 1

*Hysterotomy for Fibromyectomy. L. Dartigues.—p. 1.

Hysterotomy for Fibromyectomy.—Dartigues gives an illustrated description of conservative cervical hysterotomy for removal of fibromyomas. The arteries are not endangered by this unilateral or bilateral deep slitting of the commissure, while it gives ample access for removal of the myoma. He twists a corkscrew into the myoma, and cuts around the portion thus impaled, thus removing the growth, a part at a time, without molesting the adnexa or peritoneum.

Schweizerische medizinische Wochenschrift, Basel

April 7, 1921, **51**, No. 14

*Pneumothorax Treatment of Pulmonary Tuberculosis. O. Weber.—p. 313. Conc'n in No. 15. Supplement. J. Gwerder, in No. 15, p. 351.
*Nontuberculous Bronchial Gland Calcification. M. Gähwyler.—p. 317.
Cancer Mortality in Basel. Jessen.—p. 320.
Mitral Insufficiency with Polyarthritis and Syphilis. E. Attinger.—p. 325.

April 14, 1921, **51**, No. 15

Goiter and Seasons. H. Hunziker.—p. 337.
Interstitial Pregnancy. E. Wormser.—p. 343.
Adulteration of Salvarsan. H. Hunziker.—p. 349.

Artificial Pneumothorax.—Gwerder's experience has confirmed the value of artificial pneumothorax, even when incomplete, in grave bilateral pulmonary tuberculosis as a means of symptomatic relief. In a case described, the upper cavity was of recent date while others lower were old and stationary. The effect of the pneumothorax was thus felt mainly in the upper, recent cavity. The other cavities were only irritated and the local disease whipped up. By reducing the pressure, the effect could be graduated and only the beneficial influence retained.

Nontuberculous Enlargement of Bronchial Glands.—Gähwyler calls attention to seven cases in which the roentgen-ray findings and all the physical findings point to tuberculous disease of the bronchial glands, with pains between the scapulae, and ready fatigue, etc. But the persisting good general health and other features of the cases seem to absolutely disprove a tuberculous affection, and tuberculin tests have been constantly negative for years. The patients are five children between 6 and 16, a woman of 35, and a physician of 38. Gähwyler insists that Nägeli's figures as to the prevalence of tuberculosis need revision, as he classified as tuberculous all calcified glands found in cadavers. The roentgen-ray findings are unable to differentiate tuberculous from nontuberculous calcification.

Pediatria, Naples

March 15, 1921, **29**, No. **6**

*Epidemic Cerebrospinal Meningitis in Infants. F. De Angelis.—p. 241.
Diabetes in Boy with Infantilism. F. Amenta.—p. 249.
*Gastric Secretion in the Newborn. R. Pollitzer.—p. 253.
*Dextrin in Infant Feeding. A. Gismondi.—p. 260.
*Hemorrhage in the Suprarenals in the Newborn. S. Tronconi.—p. 266

Epidemic Cerebrospinal Meningitis in Infants.—De Angelis reports complete recovery of three of four infants, from 5 to 7 months old, with severe epidemic meningitis. He injected the antiserum directly into the spinal cavity, giving from 150 to 160 c.c. in about eight daily injections. He reiterates that up to 200 c.c. can be given to young infants without harm; symptoms of intolerance do not develop usually until after several injections, with improvement far advanced. The meningococci disappeared from the fluid after two or three injections. If intraspinal injection is not practicable, or pyocephalus develops, the antiserum can be injected directly into the lateral ventricle which is simple and, he says, harmless. An autogenous vaccine by the vein may usefully supplement the serotherapy in the graver cases.

Gastric Secretion in the New-Born.—Pollitzer has been making a chemical examination of the gastric content of 100

new-born infants before they had received any food. He found early and intense gastric secretion, and remarks that swallowed amniotic fluid may be one of the factors that stimulate the secretory function of the stomach.

Dextrin in Infant Feeding.—Gismondi explains that most of the various infant foods with maltose content have from 30 to 50 per cent. of dextrin to conteract the extreme fermentability of the maltose. He has been experimenting with dextrin alone. Given with cane sugar, half and half, it forms an excellent means of supplying carbohydrates to young infants. He dilutes the milk to 10 per cent. with this, and his experience has been that fermentations are reduced to the minimum thereby.

Hemorrhage in the Suprarenals in the New-Born—In Tronconi's case the infant died the fifth day after birth. The most prominent symptom had been intense jaundice, but hemorrhages were found in both suprarenals. The hematoma in one was so large that it explained the jaundice by pressure on the bile duct. The suprarenals had evidently been diseased, and the Schultze swinging had probably brought on the hemorrhages. The mother died after delivery, and there was much to suggest that her suprarenals had been below par.

Policlinico, Rome

April 4, 1921, **28**, No. 14

Nervous System and Internal Secretions. F. Mosconi.—p. 467. Conc'n in No. 15, p. 513.
Ileus from Gallstones. G. Pansera.—p. 475.
Sneezing May Verify Painful Affection. A. Senigaglia.—p. 477.
Prophylaxis of Rabies. V. E. Ovazza.—p. 478.

April 11, 1921, **28**, No. 15

*Treatment of Ringworm with Radium. L. Mazzoni and V. Palumbo. —p. 503.
Cystic Formations in the Labia. B. Formiggini.—p. 509.
Treatment of Abscesses. L. Morgante.—p. 511.

Radium Treatment of Ringworm.—Mazzoni and Palumbo have confirmed that radium treatment of the scalp causes all the hair to fall out in two weeks; depilation is complete by the eighteenth day. The hair begins to return in about four weeks after the complete fall, and soon it is as thick as before. There is no local or general disturbance from the radium treatment. They have a cap fitted to each patient, made of starched gauze, and tied under the chin with strings from in front of and behind the ears. This cap is covered with six-sided plates, each representing a field of about 6 cm., and holding 1 cg. of the radium bromid, filtered through 1 mm. of aluminum and 4 mm. of rubber tissue, left in place for twenty-four hours. With nineteen radium applicators, the thirty-two or thirty-five zones can all be exposed in two sittings, each of twenty-four hours. The total of irradiation thus amounts to 7,680 up to 8,400 milligram hours. There were no failures in their 132 cases treated to date. Some are still under treatment. The list includes favus, tinea and trichophytosis of scalp and beard, and the disease was always completely cured.

Riforma Medica, Naples

March 19, 1921, **37**, No. 12

Piedra in Sardinia. L. Pais.—p. 266.
Hygroma of Dura Mater. G. Pototschnig.—p. 267.
Postoperative Eventration. U. Feliciani.—p. 270.
*Trauma as Factor in Skin Disease. E. Aievoli.—p. 271.

Trauma and Skin Disease.—Aievoli discusses this subject from the standpoint of workmen's compensation. He comments on the difficulty of excluding malingering, and expresses approval of the German law which compels the insured to enter a hospital for treatment when the results of any trauma are exceptionally prolonged. If the insured declines to go to the hospital, the indemnity is reduced. When the French took command of Alsace and Lorraine they kept this law unmodified, although there is nothing of the kind in the rest of France.

April 2, 1921, **37**, No. 14

*Sexual Neurasthenia. Bruni.—p. 313.
Vaccine Treatment of Surgical Tuberculosis. G. Forni.—p. 315.
*The Nature of Anaphylaxis. E. Pesci.—p. 317.
Hydatid Cyst of the Lung. F. S. Latteri.—p. 318.
Individual Diagnosis of Human Blood. M. Carrara.—p. 321.
Traumatic Lesions from Being Run Over. E. Aievoli.—p. 323

Sexual Neurasthenia.—Bruni reviews the methods for examination and detection of organic causes responsible for sexual neurasthenia in many cases. The urethroscope has thus rendered a cure possible in many instances. He describes further how to combat oxaluria, and insists on the importance of psychotherapy to supplement all other measures.

The Nature of Anaphylaxis.—Pesci concludes from study of the literature and his own experience with guinea-pigs that anaphylaxis is entirely a physicochemical reaction. The idea of production of toxins can be abandoned.

Rivista Critica di Clinica Medica, Florence

Feb. 5, 1921, **22**, No. 4

*Rhizomelic Spondylosis. G. Garin.—p. 37. Conc'n No. 5, p. 49.

Rhizomelic Spondylosis.—Garin reports a case which confirms the constancy and the diffusion of the softening of the bones in this disease. The joint ligaments probably ossify first, while the bones soften. No benefit was obtained from any measures except slight and transient relief of the pain. The literature on the subject is reviewed, and he says that the frequent coexistence of the Strümpell-Marie and the Bechterew types show that they have a single origin.

Rivista di Clinica Pediatrica, Florence

November, 1920, **18**, No. 11

*Hypertrophy of Heart and Anemia in Infants. U. Parodi.—p. 641.
Apparatus for Study of Chemistry of the Respiration in Children. D. Pacchioni.—p. 655.

Hypertrophy of the Heart and Anemia in Young Infants.—Parodi warns to examine for hypertrophy of the heart in cases of grave anemia in infants. In a case described, the enlargement of the heart seemed to be idiopathic in the child, who died at the age of 2½. The anemia had developed at the sixteenth month. A peculiar and persisting pallor, with weakness and occasional dyspnea, first attracted attention, as in the five cases published by Heubner.

December, 1920, **18**, No. 12

*Gravity Abscess in Children. C. L. Rusca.—p. 707.

Gravity Abscess in Children.—Rusca refers to an abscess in the mediastinum, and recalls that a gravity abscess should be suspected in every case of expiratory stridor in children with known Pott's disease. Even when this is not certain, any tendency to Pott's disease in the cervical and dorsal spine should suggest radiologic examination of the mediastinum. The abscess is liable to displace the esophagus.

January, 1921, **19**, No. 1

*Inherited Neurosyphilis. E. Mensi.—p. 1.

Inherited Neurosyphilis.—Mensi found 11.11 per cent. giving a positive Wassermann reaction in 540 young children examined, and in 23 per cent. of 114 cases of disease of the nervous system. He tabulates the details of these 114 cases of nervous disease, and calls attention in particular to a girl of 8 with inherited syphilitic taint who presented the complete clinical picture of cerebrospinal sclerosis. Another girl of 7 presented the spastic paresis described by Marfan, with a tendency to obesity. He compares these cases with Gianelli's case in a young woman with supposed Friedreich's disease, but necropsy revealed syphilitic changes in the central nervous system instead of the findings of Friedreich's disease. Mensi's case corroborates Gianelli's assertion that inherited neurosyphilis may induce the identical clinical picture of familial ataxia and spastic cerebrospinal paresis. The practical importance of the inherited neurosyphilis as a factor in these diseases is evident in the improvement under specific treatment. The psychic anomaly may be due to lesions of the nervous system or to perverted functioning of the ductless glands. The inherited syphilis does not induce actual Friedreich's disease or actual spastic paralysis; it merely simulates them, and under early, intense, and long continued treatment the symptoms may subside. In conclusion, he describes the subsidence in this way of what seemed to be Little's disease in a boy of 4, improvement soon appearing under intramuscular injections of neo-arsphenamin. The importance of supplementary organotherapy is also emphasized.

Anales de la Facultad de Medicina de Lima

February, 1921, **4**, No. 19

*Peruvian Verruga. J. Arce.—p. 5.
*Autoserotherapy in Infections. E. Escomel.—p. 23.
Yellow Fever in Piura. C. E. Zapata.—p. 32. Conc'n.
Epidemic Encephalitis. M. Groseman (New York).—p. 47.
*Peruvian Materia Medica. A. Maldonado.—p. 60.

Peruvian Verruga.—Arce protests against the dictum that enlargement of the spleen forms part of the clinical picture of this disease. It was pronounced in a case he describes, but this was due to superposed malaria, and it subsided as this was cured by quinin.

Autoserotherapy in Infections.—Summarized in The Journal, May 14, p. 1375, when published elsewhere.

Peruvian Materia Medica.—Besides copaiba, aloes, tamarind, the pepper tree and the bread tree, Maldonado reports research on cassia, and other native drugs.

Archivos Latino-Amer. de Pediatría, Buenos Aires

January-February, 1921, **15**, No. 1

*Sinusitis in Infants. J. M. Jorge.—p. 1.
*Case of Prolonged Vomiting. M. Sussini and A. Casaubón.—p. 12.
Torticollis from Typhoid Myositis. F. Bazán.—p. 28.
Nervous Complications of Measles. Alice Armand Ugón.—p. 47.
*Meningitis in Infants. A. Armand Ugón.—p. 53; Idem. V. Zerbino. —p. 56.
*Whooping Cough Plus Pneumonia in Infant. F. Fernandez.—p. 61.

Sinusitis in Infants.—Jorge tabulates the measurements of the maxillary sinus in fifty-six infant cadavers, and describes five cases of this sinusitis in infants less than 3 weeks old. After a few days of swelling of the face and local pain, with fever and agitation or prostration, an abscess formed in the lower lid, gum, or palate. In his first case he opened up the sinus through the gum, but this destroyed the dental germs in the way, and he now prefers to resect the anterior portion of the inferior turbinate bone. Through the opening thus enlarged the sinus drains in the nose and can be rinsed out. This sinus is proportionately large in the new-born.

Prolonged Vomiting.—The child of over 3 had vomited from birth but was still fairly well nourished. The laparotomy revealed hypertrophy of the pylorus, and after this had been corrected the vomiting ceased.

Meningitis in Infants.—In the first infant the serotherapy came too late and the child died, but in Zerbino's case the acute cerebrospinal meningitis was arrested by early and intense serotherapy, with prompt recovery. The mortality in sixteen cases of epidemic meningitis in infants in Montevideo was 43.75 per cent. This high mortality is now being reduced by early and persevering serotherapy.

Whooping Cough Plus Pneumonia in Infant.—The recuperating powers of infants are well shown in the case reported by Fernandez. The child of 8 months had not only whooping cough and pneumonia but presented also typical toxicosis and the grave condition known as decomposition. There were also two days of meningeal symptoms, combated with ice packs, ergot, and rubbing a silver salt into the scalp. The child was given breast milk throughout, and was dismissed in good condition in a little over two months.

Brazil Medico, Rio de Janeiro

March 12, 1921, **35**, No. 11

Favorable Experiences with Ouabain. Arcobaldo Lellis.—p. 133.
*Nosography of Northeastern Brazil. A. Gavião Gonzaga.—p. 134.

Nosography of Northeastern Brazil.—Gavião Gonzaga found amebas in eighteen of the 1,235 stools examined at Natal, and other helminths in 495 specimens. He never found the leishman bodies in his research in this province of Rio Grande do Norte, and most of the cases of leprosy are imported. Syphilis is extremely prevalent. There are no facilities for diagnosis of syphilis except by clinical examination, and treatment is difficult.

March 19, 1921, **35**, No. 12

Milk in Transmission of Tuberculosis. M. Curoino.—p. 145.
Social Scourges. Aristides Ricardo.—p. 147.

March 26, 1921, **35**, No. 13

Sterilization from Eugenic Standpoint. Renato Kehl.—p. 155.

April 2, 1921, **35**, No. 14

National Education. Afranio Peixoto.—p. 165.
*Ascaridiasis. P. Palermo.—p. 171.

Ascaridiasis.—Palermo recalls that ascarids are liable to induce anemia, appendicitis, abscesses, fever from the toxins they secrete, and nervous disturbances, besides other lesions from their passage into the liver, pancreas, etc. He thinks that the most serious common injury is the anemia. The hookworm is not the only intestinal parasite that induces anemia. At the same time, he admits that helminths may live in the human intestine without inducing any appreciable disturbance. His research has demonstrated that ascaridiasis in his province, Minas, is almost as common in adults as in children.

Revista de la Asoc. Méd. Argentina, Buenos Aires

March, 1921, **33**, No. 193-194

Cervical Displacement of Heart in Two Calves. L. Van de Pas.—p. 585.
Normal Antibodies in the Blood. A. Sordelli.—p. 590.
Epidemic of Grain Itch. J. Llambias and D. Lorenzo.—p. 596.
Silver Citrate Stain for Neuroglia. J. Lacoste and P. Rojas.—p. 599.
Malformed Spermatozoa in Syphilities. V. Widakowich.—p. 602.
Destruction of Blood Corpuscles by Snake Venom. Aquino.—p. 604.
Case of Syphilitic Disease of Lung. Elizalde and Montanaro.—p. 608.
*Ayerza's Disease. P. I. Elizalde and F. C. Arrillaga.—p. 613.
Effect of Experimental Suprarenalectomy. J. T. Lewis.—p. 629. Idem. M. A. Catan, B. A. Houssay and P. Mazzocco.—p. 633.
Kidney Functioning after Experimental Denervation. Pico.—p. 637.
Conduction in Beef Heart. P. Rojas.—p. 641.
Adsorption of Snake Venom by Charcoal. M. A. Catan.—pp. 646 and 653.
Hemostatic Action of Emetin. J. Guglielmetti.—p. 657.
Routes of Absorption in the Peritoneum. J. Dutrey.—p. 659.
Production of Diphtheria Toxin. Sordelli and Wernicke.—p. 662.
Heterogenous Antibodies. Sordelli and others.—p. 668.
*Technic for Removal of Tumors in Neck. A. Sacco.—p. 673.
*Obliterating Endarteritis. R. E. Pasman.—p. 742.
*Endoscopy for the General Practitioner. E. Escomel.—p. 747.
Treatment of Amebic Abscess of the Liver. Calcagno.—p. 754.
Lesions in Bundle of His in Heart Block. Arrillaga and Waldorp.—p. 759.
Diagnosis of Pulmonary Syphilis. Arrillaga and Elizalde.—p. 774.
Thyroidin Test for Hyperthyroidism. P. Escudero.—p. 781.
Artificial Pneumothorax in Pleurisy. J. J. Vitón and A. Martín.—p. 794.
The Endocrine Factor in Erythromelalgia. T. Padilla.—p. 804.
Epinephrin Test not Specific for Hyperthyroidism. Escudero.—p. 817.
Disinfection with Violently Agitated Hot Air. M. V. Carbonell.—p. 827.
Model Farm Dwelling for Malarial Region. A. Barbieri.—p. 833.

Black Heart Disease.—Elizalde and Arrillaga give an illustrated description of another case of Ayerza's disease, with necropsy. The purplish to black discoloration of the skin is the ultimate stage of chronic syphilitic bronchopneumonia.

Large Tumors in Neck.—Ten photographs of patients and seven drawings illustrate the preferable technic according to Sacco's experience. The nine patients were all adults, and the large tumors were tuberculous granulomas, gland or bone disease, lymphogranulomas or aneurysms.

Obliterating Endarteritis.—Pasman reports great improvement in two cases under treatment by MacArthur's method, that is, pouring fluids directly into the duodenum, using several liters of fluid, generally Locke's solution.

Endoscopy for the General Practitioner.—Escomel expatiates on the importance of endoscopy, and says that it is within the reach of every one with a simple direct endoscopic tube, painting the mouthpiece black, and using with it the head lamp of the laryngologists. Good work can be done even without complicated endoscopic apparatus with special light bulbs for the interior.

Revista Mexicana de Biología, Mexico, D. F.

January, 1921, **1**, No. 3

The Transcendence of Biology. A. F. Alonso.—p. 109.
*Eugenics from Veterinary Standpoint. S. J. Bonansea.—p. 116.
Case of Excessive Vagotonia. J. J. Izquierdo.—p. 124.
The Logical and Biological Aspects of the Mind. E. Ramírez.—p. 134.
What is Meant by Biology. C. Reiche.—p. 144.

Eugenics from Veterinary Standpoint.—Bonansea has been studying the effect in cows of parenteral injections of autogenous milk and, in other animals, of injection of organ extracts and lecithin. He found the litters larger when the males had been kept fasting for twenty-four hours before being put with the females. Parenteral injection of the cow's own milk increased the output of milk by 2½ quarts a day. These injections did not cause any disturbance unless the cow was diseased, in which case they seemed to whip up the latent disease. When the rabbits and guinea-pigs were injected with lecithin just before being placed with males that had been fasting for twenty-four hours, the litter contained only from 27 to 39 per cent. males instead of the usual 63

to 70 per cent. He gives other practical suggestions for veterinary practice, and ascribes the failure of organotherapy in certain cases to the fact that the extracts were derived from the opposite sex.

Semana Médica, Buenos Aires

March 10, 1921, **28**, No. 10

*Postnatal Phrenasthenia. L. Ciampi.—p. 275.
*Meningitis. M. Castiñeiras.—p. 282.
Abdominal Arteriosclerosis. F. Fernández Martínez.—p. 297.

Postnatal Phrenasthenia.—Ciampi is director of the institution for children with nervous diseases at Buenos Aires, and he describes a case still under observation which he calls the aparetic-aphasic syndrome of postnatal cerebropathic phrenasthenia, saying it is the seventh case to be published. The boy had developed normally until nearly 5. Then came a febrile attack with syncopes but no convulsions; and in a few months convulsions and temporary hemiplegia, and the mental faculties declined to complete feeblemindedness, with progressive loss of speech. An inherited syphilitic taint is probably a factor, and mercurial treatment with sedatives have given the best results to date.

Meningitis.—Castiñeiras argues that the brain and spinal cord are probably involved in meningitis more than we realize. He also insists that in every infectious condition, whatever its origin, we can assume more or less injury of the meninges and, without waiting for certainty, we should proceed with treatment on this basis. In 75 per cent. of the cases we will find that what seemed to be a simple nervous condition was already a typical meningitis.

Siglo Médico, Madrid

March 5, 1921, **68**, No. 3508

Hysteria-Epilepsy. E. Fernández Sanz.—p. 213.
Vaccine Therapy in Case of Tachycardia. A. Mut.—p. 219.

Arbeiten a. d. Anat. Institut. d. Univ. Sendai, Japan

Feb. 18, 1921, No. 6

*Comparative Anatomy of Muscles of Shoulder Girdle. S. Nishi.—p. 1.
*Racial Differences in the Scapula. K. Hasebe.—p. 7.
*Anatomy of the Brain Stem. G. Fuse and M. Yamamoto.—p. 21.

Comparative Anatomy of Muscles of Shoulder Girdle.—Nishi discusses the comparative anatomy of the muscular system of monotremes.

Racial Differences in the Scapula.—Hasebe analyzes the findings in 183 individuals of different races in regard to the size and shape of the scapulae. His material includes seventeen from prehistoric skeletons of the stone age, recently excavated in Japan.

The Brain Stem in the Japanese.—Fuse's article forms part of the results of years of research under a special grant. Thirty-one fine plates accompany the article, showing the remarkable difference in the arrangement of the fibers in ninety-one brains and one anthropoid ape. His findings confirm those of K. Schaffer.

Archiv für Kinderheilkunde, Stuttgart

March 5, 1921, **69**, No. 1

Functional Tests of the Vegetative Nervous System in Children. E. Friedberg.—p. 1. Cont'd.
*Ossification of Bones in Hand. E. Stettner.—p. 27. Conc'n.

Ossification of Bones in Hand.—The main points of Stettner's article were given recently in THE JOURNAL, p. 1204.

Deutsche medizinische Wochenschrift, Berlin

April 7, 1921, **47**, No. 14

*Early Diagnosis of Contracted Kidney. Schlayer.—p. 373.
*Xanthochromia in the Cerebrospinal Fluid. E. Leschke.—p. 376.
Treatment of Moist Eczemas. P. G. Unna.—p. 377.
*Chronic Colitis with Endocrine Disturbance. L. R. Grote.—p. 379.
Induced Regurgitation of Duodenal Contents into Stomach. L. Jarno and J. Vándorfy.—p. 381.
Cholangitis Typhosa. G. Neugebauer.—p. 381.
Use of Metal Bolts in Laryngeal Stenosis. Brüggemann.—p. 382.
Constitution of Illegitimate Children. M. Vogel.—p. 384.
The Fürstenau Actinimeter. W. Fink.—p. 385.
Note on Parasyphilis. Lünenborg.—p. 386.
A Type of Tourniquet. F. Krische.—p. 386.
Canvas Underlay for Shifting the Sick and Wounded from One Litter to Another. H. Kritzler.—p. 387.
Hints on Treatment of Dysmenorrhea Virginum, Icterus Catarrhalis and Enuresis Nocturna. G. Schmalfuss.—p. 388.
Management of the Prematurely Born. L. Langstein.—p. 389.
Present Conceptions of Pathogenesis of Malignant Tumors. G. Herxheimer.—p. 390. Begun in No. 13, p. 358.

Early Diagnosis of Noninflammatory Contracted Kidney.—Schlayer has been studying means for recognition of incipient contracted kidney. In cases of so-called essential increased blood pressure, associated with the same clinical picture are two distinct types of disturbed functional phenomena, appearing, however, in different age groups. In one type we find an increased sensibility to sodium chlorid and usually to water, and to various diuretics; furthermore, a tendency to nitrogen retention, notwithstanding a tendency to polyuria. In the second type, in which the subjects are, for the most part, older, there is hyposusceptibility to water and sodium chlorid, and hypersusceptibility to purin bodies. In the first group there is incipient arteriolosclerotic contracted kidney; in the second possibly a more marked type of arteriosclerosis of the large and medium renal arteries. Test ingestion of sodium chlorid, of water, of certain diuretics or proteins classifies the cases by the responses induced, as he explains in detail, and may reveal the pathologic condition in the kidney in its incipiency. The experiences related confirm the wisdom of keeping close supervision over the kidneys whenever the blood pressure is permanently above normal.

Xanthochromia of the Spinal Fluid.—Leschke states, on the basis of his experiments, that xanthochromia of the spinal fluid is caused by the decomposition of hemoglobin, whereby bilirubin is formed, through a ferment produced by the action of the red corpuscles on the cells of the membranes of the spinal cord. Demonstration of bilirubin in the spinal fluid is best accomplished by diazo reaction following the method of Heijmans van den Bergh. Xanthochromia has been reported in 310 cases in the literature as associated with pressure on the cord, hemorrhagic inflammations, and hemorrhage in the central nervous system and its membranes, in which examination of the spinal fluid frequently furnished differential diagnostic evidence. Xanthochromia always occurs when red blood corpuscles find their way into the spinal fluid. Bilirubin is formed, as in other hemorrhagic exudates, within a few days. The Froin syndrome: xanthochromia and coagulation (spontaneously or after addition of fresh serum) is found in only about a fifth of the cases of xanthochromia, and associated with processes narrowing the spinal canal.

Chronic Colitis with Secondary Endocrine Disturbances.—Grote classifies in three groups the affections of the gastro-intestinal canal that are associable with changes of the endocrine system. To Group 1 he assigns the disturbances of gastro-intestinal function that are to be regarded as the immediate expression of a primary pathologic condition in the endocrine glands. Disturbances of gastric secretion associated with exophthalmic goiter are an example in point. Group 2 comprises disturbances in which the gastro-intestinal phenomena cannot be definitely subordinated to the existing pathologic symptoms in the endocrine system but are both possibly ascribable to a third, causal condition. This takes in the field of gastric and intestinal neuroses. In Group 3 may be placed those affections in which the endocrine elements are secondary symptoms. Chronic enteritis, to which a secondary pancreatitis is subjoined, is an illustration. Although little notice has been taken of them, Grote thinks that these secondary functional disturbances of the endocrine glands have a certain amount of importance. During the last six months he observed nine cases of secondary thyroid toxicosis in postdysenteric colitis.

Monatsschrift f. Geb. u. Gynäkologie, Berlin

December, 1920, **52**, No. 6

*Alimentary Amenorrhea. C. Kurtz.—p. 367.
*Quinin as Oxytocic. E. Muschallik.—p. 378.
*Air and Gas in the Uterus. K. Fink.—p. 386.
*Treatment of Febrile Abortion. R. Stix.—p. 394.
*Ophthalmia Neonatorum. W. Buchacker.—p. 406.

Alimentary Amenorrhea.—Kurtz relates that the menses were suspended during the war years in 90.8 per cent. of 142 women in an institution for epileptics. This amenorrhea he ascribes to the lack of proper food. Menstruation has returned now in all but sixty-two; the amenorrhea lasted for about two

years in the others. Emotional influences can be excluded, as a large proportion were imbeciles.

Quinin as Oxytocic.—Muschallik obtained favorable results in 58.6 per cent. of 155 parturients given 0.5 gm. quinin internally twice in half an hour. In another series of fifty cases the quinin was given both by the vein and intramuscular injection, but a favorable result was noted in only 52.1 per cent.

Air and Gas in the Uterus.—Fink relates that in a recent case of sudden death after abortion, the assumption of air embolism was confirmed by necropsy, and he has found three other cases on record in which air embolism occurred tardily. Many fatalities ascribed to hemorrhage may have been due in part to air embolism complicating the anemia. It is important to examine for entrance of air into the heart in all fatalities after placenta praevia or detachment of the placenta by hand, even when an interval of hours or days may have elapsed between the intervention and the fatality. Gas-producing bacteria in the uterus might lead to accumulation of gas, and its fractional passage into the right heart.

Treatment of Febrile Abortion.—Stix remarks that criminal abortion is becoming much more frequent of late, and febrile abortion more common. He insists that all febrile or subfebrile cases should be treated conservatively. The temperature alone is the guide. Only when sudden and profuse hemorrhage forces his hand, does he resort to rapid and vigorous intervention. Otherwise he waits for five days after the temperature is normal before he evacuates the uterus if required. He accepts 37.5 C. in the axilla as the limit. Any fraction of a degree above this forbids active procedure. The patient is kept absolutely quiet in bed with cold moist applications to the abdomen, and light nourishing diet, with abstention from further genital examination.

Ophthalmia Neonatorum.—Buchacker relates that the number of cases has materially increased since 1917, and that the gonococci seem to have acquired special virulence or at least display a special resistance to silver nitrate. The instillation of the ordinary 1 per cent. solution of silver nitrate does not ward off the ophthalmia, but merely retards its development up to the sixth to the tenth day.

March, 1921, **54**, No. 3

*Cleavage of Fetal Membranes. A. Hochenbichler.—p. 143.
Influence of Corpus Luteum or Placenta Lipoid on Menstrual Cycle, etc. E. Herrmann.—p. 152.
*Placenta Praevia. V. Hiess.—p. 165. Idem. F. Lönne.—p. 190.
*Extra-Uterine Pregnancy. Rosenstein.—p. 191

Cleavage of Fetal Membranes.—Hochenbichler emphasizes the importance of the direction in which the fibers run, as a factor in the expulsion of the after-birth.

Placenta Praevia.—Hiess discusses the limits of what we are able to accomplish in management of placenta praevia. In the 257 cases at the Vienna clinic in the last nine years (24,678 deliveries), the rule has been to apply combined bipolar version when the condition calls for immediate hemostasis, regardless of whether the child is viable or not. Delivery followed within twenty minutes in the forty-three cases in which this was done with the os dilated for two fingers or more. The mortality of the probably viable children was 38 per cent., and 6.9 per cent. of the mothers succumbed, but the loss of blood before the woman reached the clinic was responsible for these fatalities. The combined Braxton-Hicks version is too often credited with the deaths for which the preexisting exsanguinated condition is responsible. It was applied in 41 per cent. of all the placenta praevia cases, and the maternal mortality was 3.8 per cent. The inflatable bag was used in 35 cases, the cervix admitting only the finger, and 52.4 per cent. of the children were born alive and none of the women died.

Extra-Uterine Pregnancy.—Rosenstein's experience has confirmed the life-saving importance of reinfusion of the woman's own blood in certain cases of internal hemorrhage. He regards it as a more vital indication to restore the lost blood to the circulation than to arrest the hemorrhage definitely. The blood has to be reinjected under pressure; he uses a syringe for the purpose. As the centers lose their excitability so rapidly with extensive loss of blood, extreme haste is imperative. The changes undergone by extravasated blood in the serous cavities is still a question; it seems to lose its coagulating power. The method, of course, should be reserved for the graver cases as more or less severe disturbances have occasionally been reported from the reinfusion.

Monatsschrift für Kinderheilkunde, Leipzig

December, 1920, **19**, No 3

Infection and Intestinal Disease in Children. Hamburger.—p. 209.
Infectious Gastro-Intestinal Disease. B. Grünfelder.—p. 224.
Advantages of Metal Versus Glass Milk Bottles. Friedel.—p. 233.

Münchener medizinische Wochenschrift, Munich

Jan. 7, 1921, **68**, No. 1

Familial Syphilis. E. Riecke and E. Hoernicke.—p. 1.
Biologic Dosage for Roentgen and Radium Rays. Keysser.—p. 4.
Theory of Narcosis by Inhaled Anesthetics. Meyer.—p. 8.
Improved Mask for Chloroform and Ether. Wederhake.—p. 9.
*Iodin on the Skin in Abdominal Incisions. K. Propping.—p. 11.
Substitutes for Curare. D. Ackermann.—p. 12.
Spirochetes in Intestinal Canal. Langendörfer and Peters.—p. 12.
Silver Arsphenamin in Infantile Syphilis. E. Mengert.—p. 13.
Outbreak of Encephalitis After Neo-Arsphenamin. F. Reif.—p. 14.
Common Type of Mammary Inflammation in Childbed. P. Mathes.—p. 15.

Use of Iodin in Laparotomies.—Propping opposes the use of iodin on the skin in connection with abdominal incisions owing to the danger of damaging the serosa and giving rise to adhesions.

April 8, 1921, **68**, No. 14

*Nonoperative Treatment of Tumors. A. Bier.—p. 415.
*Pathologically Hard Muscles. F. Lange and G. Eversbusch.—p. 418.
*Experimental Modification of Constitution. B. Romeis.—p. 420.
*Paroxysmal Hemoglobinuria. F. Weinberg.—p. 422.
Spirochetes in Brain in Multiple Sclerosis. E. Speer.—p. 425.
Physiologic Treatment of Fractured Forearm. E. Seitz.—p. 425.
Improved Technic for Platelet Count. M. Schenk.—p. 427.
Artificial Feeding of Infants. Rietschel.—p. 433.

Nonoperative Treatment of Tumors.—Bier has been experimenting with protein therapy for twenty years, principally by injecting foreign blood. He found pig blood the best for the purpose and reviews his long and extensive research in this line. This form of protein therapy softens, dissolves and promotes resorption of inflamed tissues, but this alone is not enough to cure malignant tumors. The effect of injections of milk is similar but not so pronounced. In several cases of small, incipient cancer in mouth, breast or stomach, resection far into sound tissue was promptly followed by recurrence, as if the operation had whipped up the malignant disease. No signs of involvement of glands had been discovered at the operation. These experiences have convinced him that in future he had better treat an incipient cancer of the tongue with injection of blood and roentgen-ray treatment. He regards searing with a hot iron as superior to roentgen-ray treatment with inoperable cancer, but the searing must be done with a large cautery, such as is found now only in veterinary practice. He has never seen an inoperable cancer cured by raying. He cites several instances of subsidence of cancer in the course of these twenty years, but they are the rare exceptions. The results on the whole are deplorable. He has never witnessed subsidence of a cancer under induced hyperemia, but Ritter has been more fortunate. The latter has had ten cases much improved, and in one case a large inoperable sarcoma of the shoulder subsided under hyperemia induced by large vacuum cups. There has been no recurrence during the ten years since, and the man served in the war. This tumor gradually subsided without visible necrosis or softening.

Pathologic Hardness of Muscles.—This article discusses five different causes for hardness of the muscles, apart from contraction. The importance of this in general practice is evident in estimating chronic muscular rheumatism. The causes include acute overexertion, chronic fatigue, arterial anemia or venous hyperemia, chilling and deranged metabolism.

Modification of Constitution by Thymus Feeding.—Romeis reports the transformation of weakly and deformed tadpoles into vigorous and normal animals under systematic treatment with calf thymus.

Paroxysmal Hemoglobinuria.—Weinberg reports extensive research in a case in a married man of 25. This case confirms the important share of syphilis in this affection.

Therapeutische Halbmonatshefte, Berlin

Dec. 15, 1920, **34**, No. 24

Institute for the Investigation of Pharmaceuticals. Heubner.—p. 685.
Exercise as Therapeutic Measure. Riesser.—p. 686. Conc'n.
*Treatment of Pyelitis. O. Schwarz.—p. 693.
*Treatment of Pyelitis in Infancy. Langstein.—p. 695.
*Effect of Foreign Bacteria on Intestinal Flora. W. Klein.—p. 696.

March 15, 1921, **35**, No. 6

Prophylaxis, After-Treatment and Indications in General Narcosis. E. Melchior.—p. 161.
Balneotherapy in Obesity. F. Kisch.—p. 168.
Radium Emanations in Treatment of Chronic Arthritis. Werner.—p. 172.
Effect of Primary Sodium Phosphate on Lactation. Mettenheim.—p. 179.

Treatment of Pyelitis.—Schwarz emphasizes the need of early recognition of pyelitis and the necessity of vigorous local treatment until all leukocytes and bacteria have disappeared from the urine.

Treatment of Pyelitis in Infancy.—Langstein protests that the statements above by Schwarz apply only to older children and adults, not to infants. He warns particularly against catheterization of the ureters, or lavage of the bladder in infants. Pyelitis in infants seldom recurs, and Langer and Soldin have shown that the urine of infants is seldom free from bacteria. It almost always contains *Streptococcus lacticus* and occasionally also *B. coli*. The infantile intestine cannot hold back all forms of bacteria—from it they get into the blood stream and thence into the urinary passages. Bacteriologic blood tests show that in children with low resisting powers the resorption of bacteria is increased. Invasion of *B. coli* of itself does not necessarily lead to pyelitis. But if a marked growth of *B. coli*, with suppression of *Streptococcus lacticus*, does occur, pyelitis develops. The infection, then, is traceable to a reversion of the natural milieu resulting from an impairment of the whole organism from various factors. This permeability of the intestinal wall and this particular mode of genesis of pyelitis generally ceases about the end of the child's first year.

Foreign Bacteria as Influencing the Intestinal Flora.—Klein has been experimenting along this line and as the result of his investigations states that with our present methods it is not possible by means of the oral ingestion of even large quantities of bacteria to change, for any great length of time, the intestinal flora of man or animals so that the ingested bacterium remains a steady occupant of the intestine. From his experiments it would appear that immunization procedures offer the best chance of success in any endeavor to add the ingested bacterium to the intestinal flora or to substitute a given bacterium for one already present.

Wiener klinische Wochenschrift, Vienna

March 24, 1921, **34**, No. 12

*Smallpox in the New-Born. G. Morawetz.—p. 129
The Cytolytic Reaction. E. Freund.—p. 130.
Transmissibility of Herpetic Keratitis in Man to the Cornea of a Rabbit. A. Luger and E. Lauda.—p. 132.
The Narcolepsy Problem. Somer.—p. 132. Conc'n in No. 13, p. 147.
*Chondroituria in Pulmonary Tuberculosis. K. Dietl.—p. 133.
Operation for Ptosis. N. Blatt.—p. 134.
Statistical Observations on Stuttering. A. Schick.—p. 134.

Smallpox in the New-Born.—Morawetz relates that a 3½ months old infant, unvaccinated, brought smallpox from a rural community into a Vienna hospital. In the same room, 14 unvaccinated infants were exposed for from one to six days. The day the disease was first diagnosed, all the children in the institution were vaccinated. Of the 13 new-born, 8 came down with smallpox during the next few days. They were all well developed, breast-fed children, from 2 to 5 weeks old, and 7 of the 8 who contracted the infection showed an allergic modification of the disease process, although 2 of them died during the second stage of the fever. The immediate supply of antibodies, which sufficed for the first attack of the virus and gave to the clinical picture its modified character, proved inadequate in the second stage of the fever. This series of cases justifies the assumption that most newborn present at least a partial immunity to smallpox, but that total immunity is not rare.

Chondroituria in Pulmonary Tuberculosis.—Dietl found that as urobilinuria indicates damage to the liver, chondroituria seems to indicate damage to the kidneys. In a number of grave disease processes that affect the most important organs of the body, and especially in febrile infectious diseases (scarlet fever, pneumonia, malaria, etc.), the toxic damage to the liver has been proved by a positive urobilin or urobilinogen reaction. It is therefore desirable to investigate the exact involvement of the kidneys by means of a reagent as sensitive as chondroituria seems to be.

Zeitschrift für Kinderheilkunde, Berlin

Sept. 13, 1920, **26**, No. 5

Treatment of Tetany with Ultraviolet Rays. K. Huldschinsky.—p. 207.
*Epilepsy in Children. J. Husler.—p. 239.
*Whooping Cough plus Spasmophilia. K. Blühdorn.—p. 251.

Fate of Epileptic Children.—Husler reports research in 44 cases of genuine epilepsy in children. Nearly a third died before they had reached their twentieth year. The graver forms of epilepsy seemed to affect children with signs of degeneracy. In a few cases a decompressive operation on the brain improved conditions materially, although no signs of high blood pressure in the cerebrospinal fluid were detected. The seizures gradually subsided in one boy of 7 with grave seizures for a year before the operation, and he is now 20 years old, and normal, with no trace of epilepsy. Unfortunately, the decompressive operation was not always so successful, and some imbecile children succumbed to operative shock.

Whooping Cough Convulsions and Spasmophilia.—Blühdorn emphasizes the importance of diagnosing and treating spasmophilia in children with whooping cough. This element can be eliminated by withholding milk and giving cod liver oil and lime. Great improvement follows when this element in the clinical picture is removed, leaving nothing but the pertussis itself. The absence of any benefit from large doses of calcium testifies that the symptoms are not due to spasmophilia to any extent. He explains further that the disease induces meningitis, and that this is responsible for many of these symptoms. This too calls for special treatment, reducing the pressure by lumbar puncture and giving a sedative. The benefit may be great when lumbar puncture alone or chloral alone has proved ineffectual. In a number of recent cases of serous meningitis in the course of pneumonia, including some with whooping cough, treatment of the spasmophilia materially mitigated the severity of the disease.

Feb. 14, 1921, **28**, No. 1

*Respiration. I. A. Eckstein and E. Rominger.—p. 1.
*Index of State of Nourishment. R. Wagner.—p. 38.
*Diphhteria in the New-Born. E. Rominger.—p. 51.
*Atropin and the Infant Eye. S. Ehrenreich and M. Riesenfeld.—p. 55.
Prevalence of Pulmonary Tuberculosis in Children. Zimmermann.—p. 59.
The Nem System for Dietaries. B. Schick.—p. 62.

Respiration.—In this first report of research on the physiology and pathology of respiration, Eckstein and Rominger deal with respiration in infants. Their improved technic, they say, has cleared up a number of obscure points.

Index of Development and Nutrition.—Wagner says that great interest has been taken of late in Pirquet's geludisi index and in Rohrer's index as the Quakers, who have been giving supplementary food to thousands of German children since the war, demanded an index of the state of development and nutrition as a guide for selecting children to be helped by them. Their aim was to aid the defectively developed and the undernourished. [An article in the *Münchener medizinische Wochenschrift*, Dec. 31, 1920, p. 1523, comments on the valuable information thus afforded by the Rohrer index. This is obtained by dividing the weight, multiplied by 100, by the height. It proved most instructive when applied repeatedly to the same child, as the improvement in the index under the Quakers' feeding was most evident in this, although the children did not always increase in weight beyond others not getting the supplementary food. The Pirquet geludisi index is the cube root of ten times the weight, divided by the sitting height—the distance between the seat of the chair and the top of the head. In robust adults and in sturdy children, this geludisi index is constantly 100. An article in the *Wiener klinische Wochenschrift*, Dec. 30, 1920, states that this index is a good standard for age groups, but does not always apply to individual cases.]

Diphtheria in the New-Born.—Rominger recalls that of forty-three new-born infants harboring diphtheria bacilli, over

23 per cent. developed the disease. His experience further demonstrated that antitoxin treatment did not display any efficacy in these new-born babes, and the diphtheria was always severe, with grave prognosis.

Atropin and the Infant Eye.—Ehrenreich and Riesenfeld instilled one drop of 1:1,000 solution of atropin, diluted, in the eyes of thirty-six infants, making a total of 300 instillations. The effect did not differ materially from that in adults. The limit dose for immobilizing the pupils seemed to be 0.001 mg. of the atropin, for inducing mydriasis, 0.00008 mg.

Zeitschrift für Tuberkulose, Leipzig

April, 1921, **33**, No. 6

*Urine Test for Tuberculosis. H. Alexander.—p. 321.
*Autovaccine made from Sputum. R. Korbsch.—p. 332.
Tuberculosis of the Myocardium in Guinea-Pigs R. H. Jaffé.—p. 334.
Index of Immunity to Tuberculosis. A. Neumann.—p. 339.
Tuberculins for Diagnostic Purposes. A. Wolff-Eisner.—p. 340.

Urine Test for Tuberculosis.—Tests in ninety-one persons with their own urine seemed to confirm the reliability of the reaction that follows intradermal injection with active tuberculosis. Negative results do not exclude it, however. The urine has to be evaporated to one tenth; this is best done in a vacuum.

Autovaccine from Sputum.—Korbsch treats sputum in a Petri dish with a thin layer of 4 per cent. solution of glycerin. As the sputum dissolves, the tubercle bacilli proliferate, and by the sixth day, he says, they can be used, after centrifuging, for an autogenous vaccine without further cultivation.

Zentralblatt für innere Medizin, Leipzig

March 26, 1921, **42**, No. 12

A Case of Saccharine Poisoning. K. Grundfest.—p. 234.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

Feb. 5, 1921, **1**, No. 6

*Treatment of Asthma. W. Storm van Leeuwen.—p. 628.
The Functioning of the Cerebellum. H. W. Stenvers.—p. 637.
Thrombosis of Splenic Artery. W. J. Bais.—p. 645.
Hippocrates and his "Precepts." H. J. Lulofs.—p. 650.
*Medical Emblems. J. B. F. van Gils.—p. 661.

Treatment of Asthma.—Van Leeuwen reviews recent progress in this line in America and Europe. His own experience, he says, has confirmed the curative value of parenteral protein therapy, and of benzyl benzoate and calcium chlorid in treatment of asthma. He has found the two latter most effectual in inhalation; this brings it directly to the bronchi. His formula is: 20 gm. benzyl benzoate; 16 gm. gum acacia; enough of a 50 per cent. solution of calcium chlorid to bring the amount to 200 gm. Five times a day 10 c.c. are inhaled, using an ordinary inhaler. The benzoate is not a sovereign remedy for asthma but is often effectual. Psychotherapy is a valuable adjuvant, also refraining from meat, fish, beans and peas. He has had patients lose their asthma completely on a purin-free diet, without other measures. Other patients have been cured by protein therapy, injections of small amounts of the protein presumably responsible for the asthma.

Medical Emblems.—Van Gils reproduces eight of eighty engravings depicting medical scenes which he has collected, all dating from the sixteenth century, and portraying numerous medical emblems. Some of the pictures are illustrations drawn to accompany some of Horace's verses. One picture portrays Esculapius healing the sick with the drops of blood from the Gorgon's head held in his right hand. It had no efficacy when held in the left hand. Sambucus (1584) interprets this to mean that only the legitimate practice of medicine has healing power; "Dexter Usus" is the title of this picture.

Acta Medica Scandinavica, Stockholm

April 6, 1921, **54**, No. 5

Blue Disease in Young Man. O. V. C. E. Petersen and others.—p. 395.
*Symmetrical Gangrene. H. Marcus.—p. 413.
*Familial Dementia Praecox with Myoclonus. K. H. Krabbe.—p. 456.
*Studies on Herpes Zoster. H. Enghoff.—p. 468.
*Discutient Phenomenon in Scarlet Fever. W. Schultz.—p. 492.

Symmetrical Gangrene.—Marcus concludes from his experimental research and clinical experiences that symmetrical gangrene is a secondary, infectious disease which develops on the basis of Raynaud's disease. Repeated injection of epinephrin into the ears of fifty rabbits never induced gangrene unless the animals had been infected with streptococci. His research confirms the importance of the internal secretions as a factor in Raynaud's disease, possibly by irritating the sympathetic ganglia in the suprarenals. Sixteen illustrations accompany the article, which is in German.

Familial Dementia Praecox with Myoclonus.—Krabbe describes from Copenhagen three sisters with schizophrenia and myoclonus. The family tree shows 3 with dementia praecox out of 12 in the second generation and 6 out of 24 in the third generation, including the 3 sisters with myoclonus in addition. The fourth generation has 27 members, and all seem normal. The family is Jewish and eminent in commercial life. The founder of the family married his cousin, and his wife's mother also belonged to the same family. The dementia praecox seems to be a recessive mendelian quality in the family.

Herpes Zoster.—Enghoff discusses, in English, the intersegmental overlapping of the sensibility, and the condition of the cerebrospinal fluid in herpes zoster. Seven cases are compared with the literature. He notes the connection between the zoster and subsequent sciatica in one case; in several cases he found lymphocytosis in the spinal fluid, confirming the assumption that zoster is an acute infectious disease.

Induced Blanching of Eruption in Diagnosis of Scarlet Fever.—This sign of scarlet fever has already been described in THE JOURNAL, Aug. 14, 1920, p. 512. The effect of intradermal test application of 1 c.c. of human serum is like that of epinephrin, only with the latter the effect is noted at once and subsides in five or six hours in most, while with the serum "extinction phenomenon" the effect is not apparent until the fifth or sixth hour, and then it persists for days.

Hygiea, Stockholm

Feb. 28, 1921, **83**, No. 4

*Phrenocardia. Einar Rodhe.—p. 113.
Septic Osteitis of Dental Origin. U. Hylin.—p. 122.

Phrenocardia.—In two of the three cases described by Rodhe a sexual origin was unmistakable. The clinical picture confirmed in every respect that described by M. Herz in 1909 as a type of cardiac neurosis, sexual psychogenous phrenocardia. But in a third case described by Rodhe the symptoms were typical in the man of 27, but no sexual element was involved. The whole formed a typical traumatic neurosis although assuming the form of phrenocardia.

Svenska Läkaresällskapets Handlingar, Stockholm

March 31, 1921, **47**, No. 1

Rhinolithiasis. H. Key-Aberg.—p. 1.
*Medical Historical Museums. V. Djurberg.—p. 13.

Historical Medical Museums.—Djurberg describes the medical museum at Amsterdam in particular, with twenty-one illustrations. The profession in the Netherlands is proud of its long record, and has been able to secure many interesting relics and reproduce famous paintings on medical subjects. Sections have been fitted up to reproduce obstetric customs, treatment of the insane, etc., in previous centuries. One room is devoted to Boerhaave and his friends, early in the eighteenth century. He says that this museum at Amsterdam is the best arranged and best equipped medical museum in Europe. (The interest taken recently in medical history in the Netherlands is shown by the department devoted to it in the *Nederlandsch Tijdschrift*, and frequently cited in these columns.)

Ugeskrift for Læger, Copenhagen

March 3, 1921, **83**, No. 9

*Prevalence of Scarlet Fever. R. Nielsen.—p. 303.
Disappearance of Leprosy from Iceland. V. Erlendsson.—p. 310.

Prevalence of Scarlet Fever.—Nielsen's statistics show an unmistakable reduction in the number of cases of scarlet fever in children under 5 in Denmark in the last forty years. He ascribes this to isolation of scarlet-fever patients, thus sparing the younger children. This has reduced the mortality decidedly, although the general incidence of the disease has shown slight if any decline.